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ROLLING THUNDER

28 March 1966

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Hq PACAF

Tactical Evaluation Center

Project CHECO

Prepared by

Southeast Asia Team  
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## ROLLING THUNDER

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FOREWORD

The following report has been prepared to document the execution of the Rolling Thunder program in North Vietnam from its inception. The format was designed to cover the period from the first Flaming Dart strikes through 30 June. However, to provide continuity to the reader, certain information pertaining to July 1965 has been included. Certain of this information will be repeated in the next volume of this report.

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ROLLING THUNDER

Air Strikes Against North Vietnam (Flaming Dart)

Plans for air strikes against North Vietnam were begun as early as June 1964 when the JCS asked CINCPAC to prepare 94 targets in the DRV for air strikes. The situation in South Vietnam and Laos at the time was reaching the critical stage and there was greater acceptance of the fact that the aggression would have to be cut off at its source. In August 1964, following attacks on two 7th Fleet destroyers in the Tonkin Gulf, U. S. Navy planes attacked five naval bases in North Vietnam. The force was readied for another strike in September following another reported attack on the De Soto patrol, but this was cancelled. Nevertheless, following the August incident in the Tonkin Gulf, a sizeable deployment of air units to Southeast Asia and other Pacific bases was carried out. Although no retaliatory strikes were made following the mortar shelling of Bien Hoa in November and the Brink BOQ bombing in December, planning for DRV strikes was quite advanced and units were earmarked and ready for such strikes. <sup>1/</sup>

In early February when the Viet Cong struck American installations at Pleiku, the order was given for a retaliatory strike. Another strike was ordered less than a week later after the enemy attack on a U. S. enlisted billets hotel in Qui Nhon. Although these strikes were retaliatory, part of the "Flaming Dart" operation order, they triggered off a regular program for strikes against North Vietnam --- Rolling Thunder, begun in March 1965.

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These air strikes were only part of a much wider U. S. escalation of the war against the communists. They were carried out at the same time additional U. S. ground forces were arriving in strength at military enclaves on the coast of South Vietnam from which they would move out in direct U. S. combat activities. The "Barrel Roll" program of air strikes against the southern Laotian panhandle was begun to put greater pressure on the infiltration routes. In addition, cross-border operations, 34A operations, and continuing air and sea deployments were deepening the U. S. commitment in Southeast Asia.

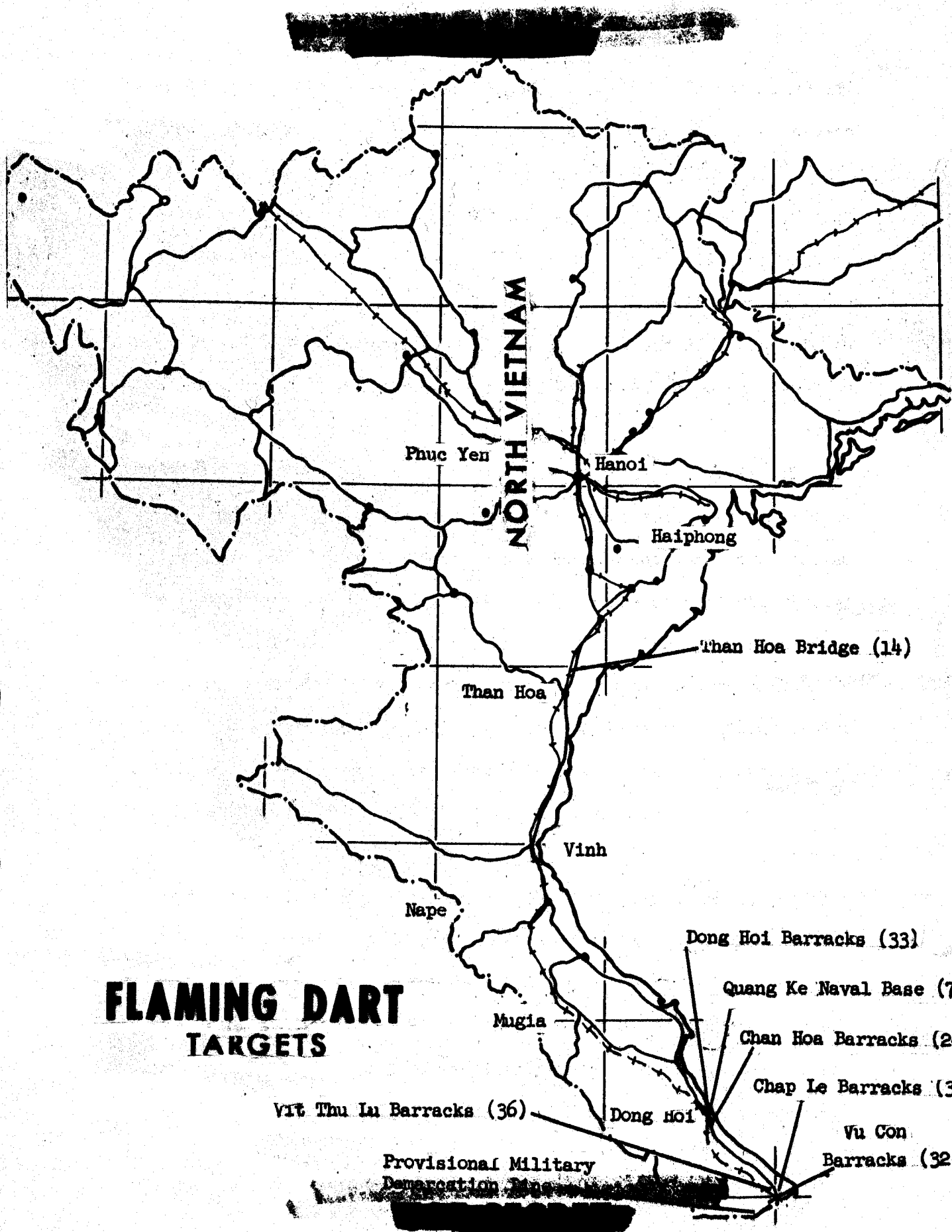
Yet, in the spring of 1965, the commencement of air strikes against targets in North Vietnam on a regular basis for a time overshadowed the rest of the U. S. effort, resulting in a noticeable improvement of morale in both the U. S. and Vietnamese forces. There were hopes that the combined military and political impact of these strikes would stop the DRV support of Viet Cong forces in South Vietnam and Pathet Lao forces in Laos. This was a new and radical change in the U. S. war effort, a turn which many USAF key personnel had long advocated. It was an attempt to get at the source of aggression, to strike the roots of the insurgency rather than its end product - the jungle fighter who was highly skilled in insurgent tactics. While it is still too early to fully evaluate the results of this escalation, it appears these air strikes had made the infiltration a more difficult and costly task and had slowed its progress. In fact, starting in February 1965,

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the month the attacks began, the DRV began infiltrating regular units across the border on an ever increasing scale. The 325th Division, North Vietnamese Army, whose barracks, assembly, and supply areas were the first targets of the Rolling Thunder program, infiltrated as a unit to directly participate in the fighting. The conduct of air strikes against North Vietnam targets also proved to be a highly difficult task, with the enemy concentrating anti-aircraft weapons, including SA-2 missiles, in the defense of military installations.

The strikes against North Vietnam, like operations in the south, were bound by strict rules of engagement with control of many detailed aspects of operations resting in Washington. The program for hitting targets began on a relatively modest scale south of 20 degrees North and was later expanded to cover practically all of North Vietnam, except the Hanoi-Haiphong area and the CHICOM border area. Nevertheless, the selection hard of targets and the designation of areas for armed reconnaissance was done at the Washington level through July 1965. Results achieved must be considered in this context.

This study narrates the expanding program for striking targets in North Vietnam from the retaliatory strike on 7 February through July 1965. Details of specific strikes are fully documented in the USAF and PACAF bi-weekly reports titled "Analysis of Air Operations Southeast Asia" and will not be repeated here. This study is more concerned with the general pattern of activity.



# FLAMING DART TARGETS

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Flaming Dart

By coincidence, CINCPAC's operations order, "Flaming Dart", covering retaliatory strikes on NVN in event of an attack on the resumed De Soto patrol in the Tonkin Gulf, came on the same day as the Viet Cong attack on Pleiku. While these strikes were directed in event of "clearly identifiable attacks by NVN forces" on the De Soto patrol, they would also be ordered in case of another provocation, such as the mortar attack on Bien Hoa. <sup>2/</sup>

The CINCPAC "Flaming Dart" order had three options. The first called for attacks on Targets #33, #36, and #39. Target #33 was the Dong Hoi barracks, which would use 24 strike and 16 flak/CAP aircraft from CINCPACFLT. Target #36, also assigned to PACFLT, was the Vit Thu Lu Army barracks to be hit with 24 strike and 12 flak/CAP aircraft. PACAF was assigned Target #39, the Chap Le barracks, which was to be hit with 40 strike aircraft supported by 16 flak/CAP aircraft. <sup>3/</sup>

The second option in the CINCPAC order called for PACFLT strikes with 28 strike and 24 support aircraft on Target #24, the Chanh Hoa barracks. The other target in Option Two was #32, the Vu Con barracks, assigned to PACAF, which would use 10 strike and 12 support aircraft. <sup>4/</sup>

Option Three included two targets, one for PACAF and one for PACFLT. Target #14, the Thanh Hoa bridge, was to be struck with 32 strike and 16 flak/CAP aircraft of PACAF. The Quang Khe Naval Base,

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Target #74, was a PACFLT target to be struck with 22 strike and 6 support aircraft. <sup>5/</sup>

The CINCPAC order specified that CINCPACAF would assume operational control of PACAF forces deployed on mainland Southeast Asia, which were currently under the control of COMUSMACV. PACAF was the coordinating authority for the conduct of all air strikes to preclude mutual interference through coordination of timing and routes. This, it was assumed, would be delegated to the Commander, 2d Air Division. The type of aircraft used on these strikes was left to the discretion of the operational commanders. Optimum conventional ordnance would be loaded on the aircraft, but napalm was not authorized. The timing of the strikes was dependent on the number of targets to be attacked with forces available. If all targets were to be hit, then a recycle of forces would be necessary to do the job in a day. <sup>6/</sup>

The order anticipated that the strike forces would be placed on a high state of alert around 7 February if the De Soto patrol was directed during the proposed period of 7 - 9 February. <sup>7/</sup>

On 6 February, the Viet Cong attacked U. S. installations at Pleiku causing considerable materiel and personnel damage. In reprisal, the JCS directed the execution of Option One of Flaming Dart, which called for strikes against Targets #33 (Dong Hoi Barracks), #36 (Vit Thu Lu Army Barracks), and #39 (Chap Le Barracks). In addition, Target #32 (Vu Con Barracks) from the second option was included for a strike by VNAF. <sup>8/</sup>

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The Navy strike against Dong Hoi was flown on 7 February employing twenty A-4C's and nine A-4E's as strike aircraft with another thirty aircraft in support roles. The target encompassed 275 major buildings. It was the headquarters of the 325th Division and home for four battalions, housing a total of some 12,500 men. The Navy planes destroyed 16 buildings and damaged six, using 200 250 pound bombs, 323 2.75 rockets, three Zuni rockets and 20 mm ammo. Eight percent of the buildings on the site were destroyed or damaged. This may be considered as a relatively light damage factor but the target was rather widely dispersed and weather was 1500-2300 overcast with scattered clouds below. AA fire was heavy and an A-4E was shot down while seven other aircraft were damaged. Prior to the first strikes on 6 February, there was no low level tactical recce program for North Vietnam. Photography for targeting had been collected by the U-2 and other strategic recce programs and was not suitable for detailed operational planning which would allow the most effective tactics and weapon delivery.

Due to weather, Targets 32, 36, and 39 were not struck as scheduled. RF-101 reports showed a 100 foot ceiling, one mile visibility and tops at 6000 feet. These were the USAF and VNAF targets and the decision was made by Major General Joseph H. Moore, the 2d Air Division Commander, to cancel out. 2/

Admiral Sharp, while admitting that there was no real necessity to defend the decision of General Moore to cancel the attack on Chap Le, said that the decision was "professionally and indisputably

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sound". "All things considered", he added, "It was not an easy one to make". 10/

Thirty A-1H's and A-1E's from a combined VNAF/USAF force assembled at Da Nang hit the Chap Le barracks just north of the DMZ on the early morning hours of 8 February. The barracks complex contained some 45 barracks buildings, four warehouses, four probable admin buildings, about 40 storage buildings and an ammo storage area with two ammo storage buildings and extensive personnel trenches. Four medium and six light AAA positions were in the target area. The 26 VNAF A-1H's were the primary strike aircraft. USAF RF-101's and F-100's supported as BDA and flak suppression aircraft. 11/

The VNAF approached the target area from the northwest and rolled in from the west, delivering a total of 97,920 pounds of ordnance. Air Force F-100's dropped 30,000 pounds of ordnance on flak suppression. USAF pilots estimated 95 to 100% of the target area destroyed. A great deal of flak was thrown at the attacking aircraft but none of the aircraft were hit by flak. Sixteen aircraft were hit by small arms and automatic weapon fire from .30 and .50 caliber guns and one VNAF pilot was wounded by plexiglas fragments. Another was forced to bail out just north of Da Nang but he was recovered with slight injuries. 12/ In general, the strike was considered a total success.

Hq's USAF  
says 15.7%  
of target  
destroyed

Almost immediately after these first strikes, CINCPAC recommended to the JCS that they be followed-up with continued pressure on the North Vietnam. This would not only improve the military



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situation but bolster the political situation in RVN. CINCPAC suggested also that US aircraft participate on a continuing basis with the VNAF inside the RVN. He anticipated larger scale VC attacks in the coming months, thus providing more profitable targets. Careful employment of US aircraft could minimize adverse political and psychological reactions. Secondly, CINCPAC wanted frequent De Soto patrols since the CHICOMS and North Vietnamese probably estimated that these patrols were used for the purpose of generating reaction against which the US could retaliate. This action would put them on the defensive. Third, he wanted to start medium-low altitude photo recce with fighter cover over infiltration route targets in southern part of North Vietnam. This would provide intelligence and have a psychological and political impact on the north. Fourth, CINCPAC suggested a broadening of objectives in attacks by US aircraft in Laos to include direct support of friendly air and ground operations. This, of course, would depend on the attitude of the Laotian government and other political considerations. Finally, CINCPAC recommended the US, after assessing the response to previous actions, should begin armed recce by US and VNAF aircraft across the DRV border. <sup>13/</sup>

The Viet Cong attack on Pleiku and the US retaliation triggered off a series of other actions which marked a turning point in the US effort in Southeast Asia. CINCPAC was directed to alert one battery from a Marine Light Anti-Aircraft Missile battalion for airlift to Da Nang from Okinawa and the 173rd Airborne Brigade

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from Okinawa to Tan Son Nhut. CINCSRIKE was directed to alert ten tactical fighter squadrons for movement to West Pac. Thirty SAC B-52's were alerted for conventional bombing operations. CINCPAC was also directed to position one amphibious group with a Marine SLF off Cape St. Jacques and a second one off Da Nang with a six hour reaction time. 14/

CINCPAC was told to expect a government announcement very shortly directing the withdrawal of 5235 non-combatant personnel from South Vietnam. At 0100 EST on 7 Feb, all PACOM forces in RVN, Thailand, and the South China Sea area assumed the DEFCON 2 position. 15/

In reprisal for the VC attack on an enlisted men's billet in Qui Nhon on 10 February, the JCS directed a Flaming Dart attack on Chanh Hoa Barracks (Target 24) located near Dong Hoi airfield and consisting of 76 major buildings occupied by part of the 325th Division. The US Navy was directed to carry out this strike, using 71 strike aircraft with 26 more flying in support. This time, the Navy planes destroyed 20 buildings and damaged 28% of the total. The weather was 2000-3000 feet in the target area with a visibility of one to seven miles. The Navy lost two A-4's and one F-8 on this mission.

This strike marked the end of the "Flaming Dart" reprisal strike program, which was followed by the Rolling Thunder program, for systematic strikes on the 94 target system. Although the Flaming Dart strikes had a negligible effect on the DRV military

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capability, they did signal to the DRV that any serious act of provocation by the VC would be answered with retaliatory strikes.

It was felt that the results might have been better if commanders had wider latitude on the selection of ordnance and the composition of strike forces. Also, there were day to day changes in targets to be struck, and in one case, the urgency of getting the strike off may have forced commanders to use what was available and uploaded. Further, restrictions on pre and post-strike recce resulted in a lack of recent target photos of good quality.

Immediately following the Viet Cong attack against the Qui Nhon billet area on the night of 10 February, the 2d Air Division issued its operations order for the reprisal strike. The strike was planned for VNAF forces against the Vu Con Army Barracks and supply area with the secondary target being the Chap Le Barracks. The USAF was to conduct flak support, MIG CAP, and RESCAP in support of the VNAF strike. Eight F-100's from Da Nang were designated for flak support, four F-100's from Da Nang would provide MIG CAP, four more would provide an airborne RESCAP, with four others on ground alert for RESCAP. Five RF-101's from Tan Son Nhut were directed to provide weather recce, pathfinder duties, and BDA, with four Da Nang F-100's escorting BDA aircraft. USAF Forces were not used on this strike, however. <sup>16/</sup>

The employment of U. S. Navy aircraft on both the first and second "Flaming Dart" retaliatory strikes against NVN with the USAF

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lumped with VNAF as a flak/CAP force only created misgivings in 2d Air Division about whether the full air power capability in SEA was being used. After planning during the night for a distinct USAF strike on a target for the second mission, the 2d Air Division was advised that the Navy would hit the target. <sup>17/</sup>

Considerable difficulty was experienced by the 2d Air Division planning officers on early strikes. Second Air Division originally received a target list from a MACV planning conference held on 10 February. Three hours were spent on planning for the strike on this target when 13th Air Force notified 2d Air Division that a different target list was to be used. The 2d Air Division said it had the MACV target list and continued working on it. Shortly after, a phone call from PACAF indicated that JCS had changed the MACV target list and that 2d Air Division would hit Target #14, not #24. The 2d Air Division began working on the strike against Target #14 when information was received that Target #14 was scrubbed. Also, just before the F-105's were ready to deploy to Da Nang from Thai bases, word came in that they could strike from Thai bases. 2d Air Division was informed that the Navy would hit Target #24, VNAF Target #32 and the USAF would be limited to a flak/CAP role. These last minute changes were difficult to assimilate, particularly where VNAF forces were involved. <sup>18/</sup>

PACAF subsequently told 2d Air Division that the changes, in practically all cases, stemmed from Washington level with minimum lead time. The broadening of flak suppression requirements by

[REDACTED]

CINCPAC resulted in PACAF forces being deleted from the strike plan and assigned the flak/CAP role. 19/

The new CINCPAC operation order on 11 February 1965 covering reprisal strikes against North Vietnam said that "in the event of serious attacks or provocations, a national decision may be made to retaliate by undertaking punitive and crippling air strikes against pre-selected targets in NVN". The purpose of these strikes would be to get maximum damage consistent with the forces available and to impress upon the Hanoi and Peking leaders that these provocations would bring prompt and destructive response from the U. S. 20/

ISSUED  
AFTER  
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DART

The real significance of these Flaming Dart missions was political, not military. The first attack was made while Soviet Premier Kosygin was in Hanoi and there was speculation that the Viet Cong attack on Pleiku may have been tied to the Kosygin visit. Secretary of Defense Robert S. McNamara at a press conference on 7 February (Washington time) said that the U. S. could not fail to respond to the Pleiku attacks without misleading the North Vietnamese as to U. S. intent and the "strength of our purpose to carry out that intent". President Johnson, in a statement released on 7 February, said that intelligence had indicated a more aggressive course of action by the Hanoi regime and that the U. S. had no choice but to "make absolutely clear our continued determination to back South Vietnam in its fight to maintain its independence". The first attack on North Vietnamese military targets was intended to deliver a message which apparently did not register,

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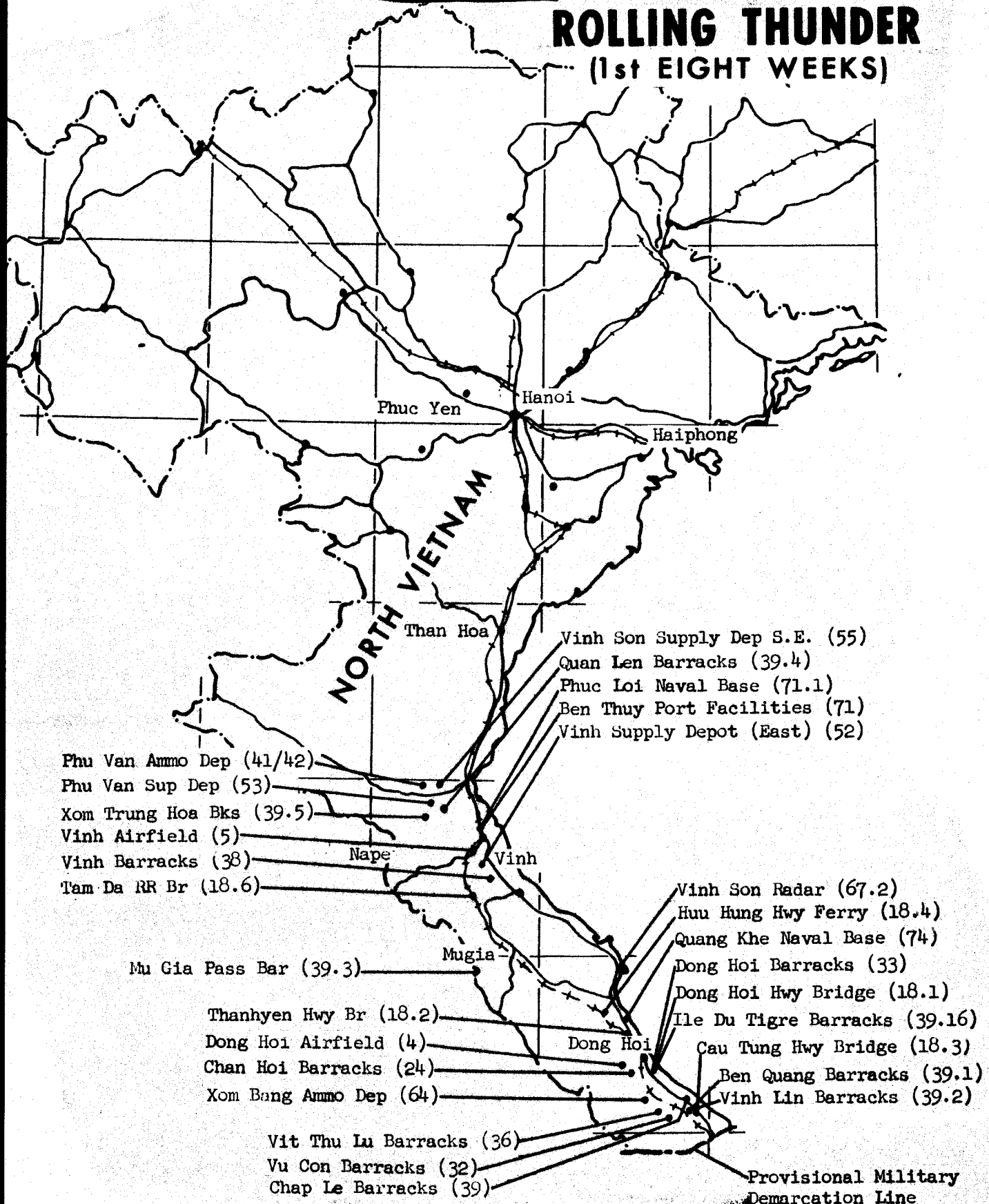
considering the 10 February attack on the Qui Nhon enlisted billet. 21/

The Washington Post, on 8 February, editorialized on the U. S. position: 22/

...The outlook is made particularly grim by the general chaos in South Vietnam and by the aid which the Soviet Union is giving North Vietnam. The Viet Cong is in control of much of the countryside and is infiltrating the cities. Troop morale is low. War-weariness afflicts a people at war for 20 years. There is no foreseeable prospect for a stable government which can command the confidence of the people. If the Russian intervention caused the United States to refrain from such military operations as that it undertook Sunday, it would remove the only military card we have left - the threat of reprisal for stepped-up aggression....

# ROLLING THUNDER

(1st EIGHT WEEKS)



Rolling Thunder

On 12 February, the JCS recommended an eight week program for action against North Vietnam, which was forwarded to the Secretary of Defense for discussion at top levels. The air phase of this program called for one U. S. plus one SVN strike on each of two days a week against the following targets: 23/

First Week:	Target 32	-	Vu Con Bks
	Target 36	-	Vit Thu Lu Bks
	Target 67.2	-	Vinh Son Radar
	Target 18.3	-	Cau Tung Hwy Bridge
Second Week:	Target 4	-	Dong Hoi Airfield
	Target 24	-	Chanh Hoa Bks
	Target 39.2	-	Vinh Linh Bks
	Target 39.3	-	Mu Gia Pass Bks
Third Week:	Target 64	-	Xom Bang Ammo Depot
	Target 74A	-	Quang Khe Naval Base
	Target 39.1	-	Ben Quang Bks
	Target 18.2	-	Thanhuyen Hwy Bridge
Fourth Week:	Target 33	-	Dong Hoi Bks
	Target 53	-	Phu Van Sup Depot
	Target 18.6	-	Tam Da RR/Hwy Bridge
	Target 39.5	-	Xom Trung Hoa Bks
Fifth Week:	Target 39	-	Chap Le Bks
	Target 41/42	-	Phu Van Ammo Depot
	Target 64	-	Xom Bang Ammo Depot
	Target 18.1	-	Dong Hoi Hwy Bridge
Sixth Week:	Target 4	-	Dong Hoi Airfield
	Target 41/42	-	Phu Van Ammo Depot
	Target 39.16	-	Ile Du Tigre Bks/Storage
	Target 39.4	-	Quan Len Bks/Stor/Trng
Seventh Week:	Target 36	-	Vit Thu Lu Bks
	Target 38	-	Vinh Bks and Hq
	Target 71.1	-	Phuc Loi Naval Base
	Target 18.4	-	Huu Hung Hwy Ferry



[REDACTED]

Eighth Week:	Target 5	- Vinh Airfield
	Target 52	- Vinh Sup Depot East
	Target 55	- Vinh Son Sup Depot Southeast
	Target 71	- Ben Thuy Port Facilities.

On these strikes, all flak, CAP and recce sorties would be carried out by U. S. aircraft. Alternates each week would be chosen from the next two weeks list. In case of a MIG reaction, the JCS proposed attacking their bases, with Phuc Yen being attacked at night by 30 B-52's followed at next first light by an attack by 24/ 32 fighter bombers supported by eight CAP and eight Flak aircraft.

In addition to the air phase of the program for putting military pressure on North Vietnam, other existing programs would be continued. These were 34A MAROP's and AIROP's, T-28 and Barrel Roll 25/ operations in Laos, and De Soto patrols.

The JCS was interested in the interdiction of the Hanoi -- Vinh railway, roads, highway bridges, and ferries as well as radars and telecommunication. Radars and telecommunications should not be attacked piecemeal but as part of a complete systematic integrated plan. 26/

Replying to a JCS request for comments on an "eight week" program for pressure on the DRV being developed in Washington, CINCPAC cited four key points. First, he wanted low level recce conducted in coordination with air strikes to complement intelligence data currently held. This would allow penetration of jungle canopies, foliage, and camouflage which concealed infiltration installations, and convoys. It would also confuse defenses and serve

[REDACTED]

to keep North Vietnam off balance. Intelligence data gathered from low level recce would provide a more complete base on which to plan future operations such as 34A operations, naval gunfire, and amphibious operations. 27/

The second point concerned restrictions on the use of Thai bases. The congested base loading in the RVN, particularly at Da Nang, made it highly important that Thai-based forces be used. Based on previous experience, it appeared that Thai-based forces could and should be used for these strikes with the U. S. following the Thai request not to divulge that U. S. aircraft were launched from these bases. CINCPAC said he saw no need for artificial restraints which interfered with operational flexibility. 28/

Third, he wanted the removal of the prohibition on recycling strike aircraft when operationally feasible. Without recycling, larger forces had to be in place. 29/

Lastly, if the tempo of operations continued at no higher level than in the first two weeks of March, CINCPAC wanted to rotate the three carriers in the South China Sea to port for upkeep, removing one at a time. 30/

The JCS directed that the first Rolling Thunder mission be flown on 20 February, but this was delayed until 2 March due to political reasons and weather conditions. 31/

General Khanh, as well as the RVNAF, generally was eager to get going on the program for striking targets in North Vietnam. On 17 February, MACV learned that he had selected three targets,

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the Vu Con Army barracks, the Dong Hoi highway bridge, and the Huu Hung ferry, for strikes within 24 hours. MACV convinced him to slow down, pointing out the agreement to conduct reprisal strikes on a joint basis. MACV later learned that Khanh's eagerness to hit the Dong Hoi bridge on 18 February was based on information that Ho Chi Minh would personally officiate at the dedication of this bridge on 19 February. <sup>32/</sup>

CINCPAC was also concerned about the effects of VNAF pre-occupation with strikes in North Vietnam on their counterinsurgency mission. He wanted to emphasize to the VNAF their COIN role. Further, he wished to limit the number of targets assigned to them in North Vietnam and eliminate those requiring large number of aircraft. He noted the increasing involvement of the VNAF in planning for the strikes against North Vietnam and said this could become a major and dangerous problem. <sup>33/</sup>

Rolling Thunder II was postponed three times and it was expected to be held up longer due to internal Vietnamese politics. General Khanh, after the 20 February coup was told to get out of the country by 25 February and he was considered a possible threat to government stability until he left. The VNAF preoccupation with the coup gave it a doubtful capability for a North Vietnam attack. The A-1H's would have to be downloaded of coup weapons prior to upload of NVN strike munitions. The U. S. State Department and DOD wanted a joint USAF/VNAF strike. There was a danger that target compromise would be increased with the delay. <sup>34/</sup>

[REDACTED]

Employment of VNAF in the early retaliatory strikes presented several problems. In February, the VNAF pilots were put on extensive periods of alert related to current coups and counter-coups and they were not in a position of participating in operations requiring a high degree of alert. General Westmoreland spoke to Air Vice Marshal Ky on 24 February to try to get him to discontinue "his nonsensical alert" or at least reduce its scope. He hopes he could get VNAF available for a full strike on 25 February or for token participation with 2d Air Division. General Westmoreland recommended in any case that U. S. aircraft execute strikes against the Mu Gia Pass Station as soon as weather permitted. The VNAF could then execute the Rolling Thunder II mission when the situation permitted. When the VNAF struck, U. S. forces could strike the Quang Khe naval base on the same day, though not necessarily at the same time and public announcement of reprisal justification could be made on these latter strikes. No public announcement was considered necessary on the Mu Gia strike since it was in an area with little or no civilian population. 35/

Permission was again granted by the Thai government for the use of Thailand-based aircraft for Rolling Thunder V. This would enable the U. S. to employ its aircraft much more efficiently removing the need for planes to stage from Da Nang or other RVN bases. In Thailand, the USAF had 44 F-105's, and 20 F-100's ready for the Rolling Thunder V strike on 2 March. Another 33 F-100's were based at Da Nang in Vietnam. 36/

[REDACTED]

Weather was still the key planning factor in the March strike as it was in the February retaliatory strikes. On 2 March, weather forecasts were not optimistic, but they showed that between 1000 and 1500 local, the weather would be about 15,000 scattered with ten miles visibility. To cover the possibility of weather forecasting being off, General Moore directed that the strikes be planned for as early a time as possible, postponing it hour by hour if necessary, and carrying it out when weather permitted. The original plan called for a TOT of 1545. 37/

A study of weather conditions indicated that the best time for strikes against North Vietnam in March was between 1800 and 2000 hours (local time) with the worst time being between 0600 and 0800 (local time). In April, these morning hours were still considered the worst time to attack and the best time was given as between 1500 and 1700 hours. In May, the optimum period was between 1200 and 1400 with the worst period between 1800 and 2000 (local time). 38/

Commenting on possible ways to conduct Rolling Thunder strikes under minimal weather conditions in response to a CINCPAC request, 2d Air Division listed several possibilities. First, it did not consider delivery by USAF F-100/F-105 forces feasible with ceilings less than 6500 feet AGL, when the strike force was as large as the one committed in Rolling Thunder IV, and where 750 pound munitions were called for. The most critical consideration was the density of the strike force, including the flak suppression aircraft, while the strike was in progress. The force was compressed under low

[REDACTED]

ceiling conditions and it lost the capability of vertical displacement and maneuvering room. The accuracy of bombing under these conditions would be degraded. <sup>39/</sup>

The B-57, which could deliver ordnance by level bombing under lower ceilings, was also subject to traffic density with a degraded effectiveness. The weaponeering and desired damage levels indicated the ordnance loads for aircraft. Munitions such as rockets and CBU would not approach the damage criteria desired. If a strike was desired at low altitudes, but in no case less than 4500 feet AGL, a drastic reduction in the total strike force, such as four flak and eight strike aircraft, might be feasible. If a reduced strike force was not considered desirable, an alternative of having aircraft strike in a series of time over targets (TOT's) would be a possibility; however, the risk factor might not be acceptable for later TOT's when the surprise factor was lost. <sup>40/</sup>

The VNAF could make the strikes with lowered ceilings if munitions were changed to WP, rockets, and 20 mm cannon fire. The VNAF had a stated minimum requirement for 3000 feet AGL for dive bombing. <sup>41/</sup>

The 2d Air Division did not consider GCI radar controlled release feasible from an accuracy standpoint. Radar could not position an aircraft closer than one to five miles. The radar equipped pathfinder could assist in navigation only, since no capability existed for accurate bomb delivery with any radar equipped aircraft available. <sup>42/</sup>

[REDACTED]

Low altitude level delivery of delayed fuze 500 pound bombs was possible with the B-57 and A1 aircraft; however, safe separations would require a 2000 foot ceiling. Accuracy would be acceptable for area targets only. Snake Eye munitions and napalm could also be delivered effectively with lowered ceilings against area type targets. Target acquisition was critical, however. An initial point or strikes on points would be necessary. A strike force could be broken into flights with varying TOT's, cross the target at high speed and immediately leave, pulling up into the overcast if necessary. Each target would have to be evaluated separately on minimum ceilings depending on such conditions as terrain. The 2d <sup>43/</sup> Air Division recommended no strikes at lower than 2000 feet.

In passing these 2d Air Division comments to CINCPAC, COMUSMACV said that he agreed generally, but felt that Snake Eye and napalm could be effective against pinpoint targets as well as area type targets with visibility being the major criterion. He added that the use of U. S. aircraft resources suitably equipped to conduct radar bombing be exploited. Another possibility for exploitation was the use of heavy AC&W aircraft for positioning strike aircraft. <sup>44/</sup>

An operations order for weather recce flights over North Vietnam was issued by CINCPAC on 5 March. Called Washing Window, the order directed flights south of the 19th parallel in NVN as required on a random but frequent basis to prevent the association of individual weather recce flights with ensuing planned strike operations. These weather recce flights were to be conducted at

[REDACTED]

least four times a week, with PACAF and PACFLT taking two each.

The missions would be conducted in flights of two aircraft at a minimum altitude of 10,000 feet. *45/May (TS), CINCPAC to CINCPACAF, 050319Z Mar 65*

The Rolling Thunder V mission was the first separate USAF strike against North Vietnam targets and the largest strike up to that time, employing some 160 aircraft. Forty-four F-105's from Thai bases, forty F-100's from Da Nang and Takhli, seven RF-101's, twenty B-57's, and six KC-135's were involved. In addition, VNAF A-1H's supported by USAF F-100's flew on the mission. The USAF strike force hit the Xom Bang ammo depot with a reported 70-80% damage by the 120 tons dropped from the 105's and B-57's. The VNAF force struck the naval base at Quang Khe, which was reported 46/ 70-80% destroyed.

A total of six friendly aircraft were downed on these strikes. Three F-105's, and one F-100 were downed on the Xom Bang strike with all but one F-105 pilot recovered. An A-1H and F-100 were downed on the Quang Khe strike and both pilots were recovered. 47/

PACAF said there were indications that some hours prior to the launch of the "Rolling Thunder V" strike force, actions were taken to evacuate civilians from target areas and to alert defenses which indicated some degree of compromise. The large number of telephone conversations required before the mission increased compromise possibilities. The pre-strike recce also contributed to an increased enemy alert posture. The enemy radar system and probable VC monitoring of aircraft launch and tactical communications also provided



~~TOP SECRET~~  
additional possible early warning of strikes. This meant that the USAF was seldom able to achieve surprise through low attacks. <sup>48/</sup>

PACAF noted that it was also evident that the AF did not have, and might never have, enough intelligence on the location of AA weapons to provide enough effective flak suppression on heavily defended areas. The sites could be located, but the 37 and 57 mm guns were readily moved. A major threat to low level penetrations came from automatic weapons fire of 50 caliber and smaller. These also were easily moved and hidden and difficult to detect in advance. <sup>49/</sup>

While it was too early in the operation to draw any firm conclusions on the performance of jets, there were expressions from some sources that the integrated systems of high performance aircraft might make them more vulnerable to tight AA fire. In the case of Rolling Thunder V, however, one A-1H out of 20 on the mission was lost to ground fire while four jets out of 104 in the action were lost, making the percentage of prop losses higher than that of jets. <sup>50/</sup>

Since most of the losses were made while attacking AA positions, PACAF felt that it was time to re-examine tactics and weapons for flak suppression and even, perhaps, eliminate flak suppression unless it was considered essential for protection of the primary strike force. If flak suppression were continued, there was a need for better intelligence, better munitions and better tactics. Low

[REDACTED]

level recce missions and RB-57 IR missions would give better intelligence. The use of CBU-1 munitions would be more effective against AA positions, as would improved Snake Eye bombs and 500 and 750 pound bombs, which were in short supply. Delayed fusing would help, but these were not available for use with the 750 pound bomb. Also, it was felt that the large warhead for the AGM-12 would be valuable, as would the use of napalm. <sup>51/</sup>

To increase the possibility of surprise on these strikes, a reduction in the pre-strike communications would help. A program to confuse the enemy by maintenance of a steady pattern of communication activity was also suggested. To reduce early warning intelligence from radar, a program of intensive strikes against radar and communication facilities would be valuable. Unless this radar capability was eliminated, the DRV would always be able to detect incoming strikes by monitoring high flying air cover fighters and recce pathfinders. <sup>52/</sup>

Combat losses would be reduced if pilots made one pass on the target and then departed. They should not remain in the target area to search for targets of opportunity. Also, a restriction would have to be placed on the number of aircraft in the target area at one time. A smaller number of aircraft used on a random recycle and re-strike basis against the same target complex would be more effective than using a large number at one specific time. It would permit greater flexibility in tactics, more surprise, and far less exposure time per aircraft. Caution would have to be exercised

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to avoid putting too many restrictions on tactical units as this might discourage them from pressing attacks to accomplish assigned missions. <sup>53/</sup>

There was growing evidence in early March that USAF intentions were reaching the enemy from the disclosure of highly sensitive intelligence over unsecured communications. Yet, there was the necessity for the 2d Air Division commander to employ all his air forces and weapons through a positive control system. This made it urgent that a secure voice and teletype system from the 2d Air Division Command Center to combat elements in SEA be installed. A Pacific GEEIA engineering task force arrived in the theater on 16 February to do this job on a rush basis. <sup>54/</sup>

Following the first mission, the JCS directed that U. S. strikes be concurrent with or subsequent to VNAF strikes. JCS also authorized attacks on positively identified patrol craft, the use of incendiary, and low level post-strike recce missions for BDA. Recce on all subsequent strikes could be flown at medium altitude unescorted at first good weather without further approval. <sup>55/</sup>

On 14 March, 20 VNAF A-1H's with USAF F-105's and F-100's in support hit the Hon Gio Military Barracks on Tiger Island with 250, 500, and 750 pound bombs, achieving an estimated 70-80% damage level against the seven major barracks housing some 250-300 troops. The following day, 137 USAF and USN aircraft in strike and support roles struck the Phu Qui Ammo Depot, achieving a 30% damage level with the loss of one U. S. Navy A-1H. Incendiary was used for the

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56/

first time on this strike.

To provide operational flexibility on future strikes, the JCS on 16 March authorized strike missions against the DRV on a weekly basis with strikes to be executed at any time during a seven day period. Those missions not struck during the period could be carried over into subsequent weeks. For the first week of 17-23 March, strikes against seven targets were authorized; ten targets were approved for the second week (24-30 March); eight for the period 31 March - 6 April, and eight for the fourth week (7-13 April). 57/

NOTE:  
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1959 SHOW  
WEEKLY STRIKES  
BEGINNING 19-25  
26 APRIL  
1 APRIL  
ETC

Further changes in the ground rules were made for this four week period. Thai-based planes could now be used. U. S. forces could fill out VNAF requirements. Enough aircraft could be used to achieve a high damage level. Random armed recce missions employing 4-8 aircraft plus suitable CAP and flak support were authorized. U.S. strikes were not required in association with VNAF missions. Armed recce of highways and railways to strike rolling stock was authorized after strikes. Flak and CAP aircraft could expend on rolling stock and military vehicles. Low level and medium altitude BDA recce was also authorized. 58/

Strikes against targets south of the 20th Parallel became almost a daily occurrence after 19 March, when the first target of the four week series was hit. Like previous strikes, the 19 March attack on the Phu Van Army Supply Depot was a large scale strike employing 57 strike planes with another 29 aircraft flying in support.

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In a strike on 21 March made by USAF/VNAF forces against the Vu Con Army Barracks, a force of 24 strike planes and 10 support aircraft was used. Another large scale mission was flown on 29 March against the Bach Long Island Radar site, using 32 attack planes and 25 support aircraft. The majority of strikes in this four week period, however, were flown with fifteen or less attack aircraft on a single mission. <sup>59/</sup>

The strikes of 19 and 21 March were against barracks targets, but starting on 22 March, the emphasis was switched to radar sites. Between 19 and 31 March, radar sites were attacked at Vinh Linh, Dong Hoi, Cap Mui Ron, Ha Tinh, Bach Long Island, Vinh Son, Hon Matt, Cua Lo, and Hon Nieu Island. These attacks used up practically all of the strike capability. Knocking out these radar warning sites was expected to improve the security of strike forces, but <sup>60/</sup> radar sites proved to be extremely difficult targets to destroy.

In late March, the U. S., according to CINCPAC, was transiting between a situation where the U. S. was not involved in a large war with the DRV and/or CHICOMS and a situation where large U. S. forces were actually engaged in combat. In this latter case, U. S. military actions were circumscribed by political necessity on many occasions. There were certain political restraints which would remain in effect before the strength of U. S. "signals" were read properly in Hanoi, Peking, and Moscow. CINCPAC said the U. S. was on the threshold of intensified operations which required the smooth functioning of military forces with the maximum designed freedom of

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action. He added that the machinery and the pre-planned procedures for full intensification of operations were in place and working. <sup>61/</sup>

CINCPAC said that although local operations had become intense, it was essential to view the western Pacific with a perspective and a constant awareness that the total communist threat extended from Manchuria to Burma. The overall strategic analysis and many of the decisions would still have to come from Washington, but from a tactical standpoint, restrictions should be eased which might hamper smooth, safe, and effective control of combat operations. The freedom of action made possible in the JCS four week program issued on 16 March was an important example of how broad strategic guidance could permit flexibility of tactical operations. It was CINCPAC's intention to further delegate authority to subordinates at all levels where feasible. Effective plans and control procedures were operating for Barrel Roll, Yankee Team, 34A operations, and punitive strikes against North Vietnam. While each operation had its separate constraints and procedures, execution authority was delegated to the lowest practicable level. <sup>62/</sup>

CINCPAC said he was impressed with the smooth and professional coordination between PACAF and PACFLT forces in the Rolling Thunder VI and VII strikes. He said another review should be made of past restrictions from which there had been some relaxation in recent weeks. In this way, it would be possible to move closer toward improved tactical concepts and operational procedures. It was necessary to continue to streamline the decision process at all

[REDACTED]

levels, curtail excessive communications, and rely more on existing channels of command. Restrictions should be lifted gradually in order to preserve the sensitive agreements which had been reached by painstaking political negotiation. 63/

CINCPAC felt the U. S. should retain a unilateral flexibility to engage North Vietnam on an escalating timetable of our choice, or disengage along lines consistent with U. S. national policy. The finality of a combined command would restrict either course. There was a need to move toward a gradual integration of U. S. ground operations with those of the RVN, but each phase should be pursued without abrogation of national responsibilities. The U. S. should continue in a transition phase, he added, based on cooperation rather than formal combined authority. General Westmoreland had said that the U. S. had come a long way toward bringing its influence to bear on the South Vietnamese. 64/

CINCPAC wanted a small, combined coordinating staff superimposed on the current MACV-RVNAF structure, to be headed jointly by COMUSMACV and CINCRVNAF. This staff would deal only with problems of a combined nature, retaining normal, unilateral national functions within existing command and staff agencies. This was the view of General Westmoreland which CINCPAC endorsed. 65/

Some of the continuing restrictions were pointed out by CINCPAC. Reconnaissance, both photographic and weather, was restricted to medium altitude, specific request to higher authority necessary for low level recce. CINCPAC said the tactical commander

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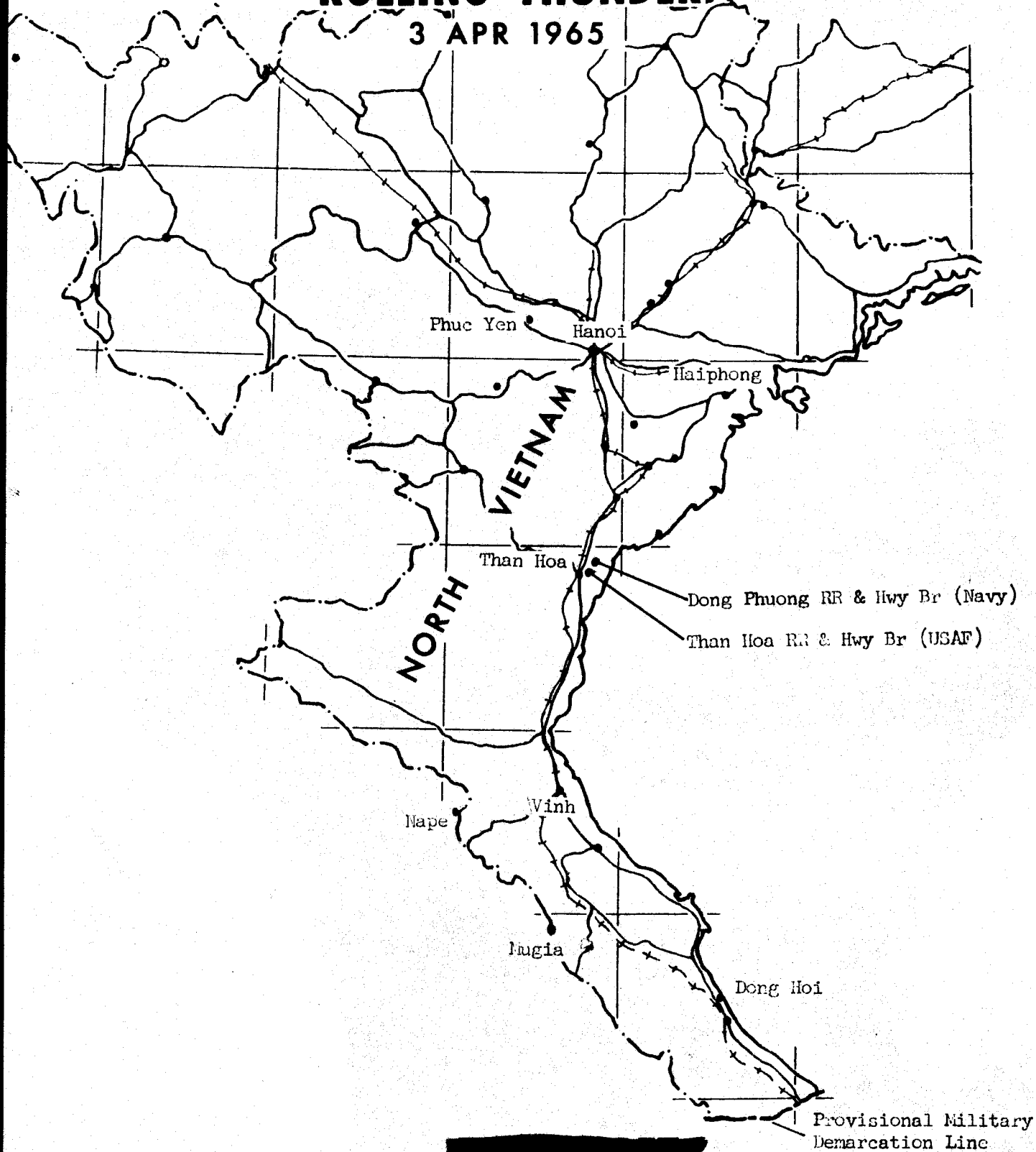
should be given the authority to determine altitudes of recce flights. He also recommended that tactical commanders be given authority to conduct flights on a frequency justified by military needs rather than by an arbitrary timetable. He also wanted reporting requirements reduced. Advance authority should be granted to strike fleeting and on-call targets. Tactical commanders should also be allowed to determine the number of aircraft and weaponeering required to complete a task successfully with the least possible risk. Target selection, including shore bombardment targets, should be authorized at a lower level. Finally, he wanted to expand the concept of U. S. operations to confront North Vietnam with the broad range of U. S. power, including naval shore bombardment of coastal targets and airborne and amphibious raids against the DRV. 66/

COMUSMACV, commenting on these CINCPAC views, pointed out two possible areas for changes in the chain of the U. S. command and control structure. The first would be the decentralization of control authority from CINCPAC to COMUSMACV or the establishment of a separate theater of operations in Southeast Asia with a concurrent activation of Hq, COMUSSEASIA. This latter change would apparently place the U. S. Ambassador in Saigon and possibly ambassadors in all of Southeast Asia, plus other elements of the U. S. Mission, in a supporting role for COMUSSEASIA. This situation would be difficult to perceive apart from the delicate problems posed by the most effective interrelationships of key slot incumbents. It would require



# ROLLING THUNDER

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at least a U. S. national declaration of emergency or a complete change of personalities, which at the current time, would be counterproductive. <sup>67/</sup>

COMUSMACV indicated that there was not enough time to duplicate PACOM support facilities in Southeast Asia, nor did logic support the assignment to COMUSSEASIA of all the combat and combat support forces, which would be needed against all foreseeable contingencies. For these reasons, he considered it desirable to maintain existing headquarters for military affairs within SEA at CINCPAC, with field commanders assuming a support role. The urgency of the military situation which could develop, COMUSMACV said, dictated a relaxation of operational controls, currently held by CINCPAC, for reasons which had been apparent and logical. This relaxation might well be the allocation of all forces required to conduct current operations in Southeast Asia to COMUSSEASIA control, recognizing CINCPAC's much broader but more quiescent responsibilities. <sup>68/</sup>

There were no strikes on 1 and 2 April but, on 3 April, a mission was flown against what was to prove one of the most stubborn targets of all, the Thanh Hoa Railroad and Highway Bridge over the Song Ma River, three miles north of Thanh Hoa. The USAF on 3 April employed 31 F-105's with another 15 F-105's and 19 F-100's in support in an effort to destroy the bridge. The bridge was 540 feet long, 56 feet wide, with two equal spans, one concrete pier of steel through-truss construction. The strike planes dropped 254 750 pound GP bombs and 266 2.75 rockets, which were considered sufficient ordnance to drop

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one span. The bridge remained standing after the strike. An RF-101 and an F-100 were shot down during the mission. Weather during the strike was clear with a five to seven mile visibility. <sup>69/</sup>

A strike on the same day against another bridge in the Thanh Hoa area was more successful. The U. S. Navy launched 35 A-4's supported by 18 F-8's, five F4B's and four A1-H's on flak suppression and air cover against the Dong Phuong Rail and Highway Bridge 13 miles northeast of Thanh Hoa. This bridge was 525 feet long and 22 feet wide with three steel through-truss spans resting on two masonry abutments. <sup>70/</sup> Dropping 174 MK-82's and ten MK-83's along with 72 2.75 rockets, the Navy planes dropped the center span of the bridge and probably damaged the northern span. Damage was estimated at 100% effective. The Navy lost one A-4 on this mission.

In a re-strike on the Thanh Hoa bridges conducted at 1100 hours the same day, 48 F-105's supported by 16 F-100's on RESCAP and MIGCAP, damaged a large section of the bridge. However, three F-105's were lost on this mission, two being shot down by MIG aircraft, six of which were sighted in the area. In this re-strike, the planes dropped 384 750 pound bombs and 32 AGM-12 B missiles. Weather on this strike was 15,000 foot scattered with visibility five miles in haze. <sup>71/</sup>

There were numerous hits on the bridge with the AGM-12B's carrying 250 pound warheads, but these did little damage. Several 750 pound bombs hit the bridge also during these two missions, but failed to collapse it. <sup>72/</sup>

[REDACTED]

To destroy the highly defended Thanh Hoa bridge, 13 AF suggested that ordnance be changed to M59A1 1000 pound semi-armor piercing bombs with an M-134 delayed fuse. This would allow penetration into the abutment and a higher explosive yield. A skip bomb type delivery to hit under the bridge or a dive bomb high angle delivery was suggested to get maximum penetration and avert ricochets. 13 AF also suggested that only four to six strike aircraft be used instead of the large numbers used on previous raids so that exposure would be reduced. <sup>73/</sup>

PACAF indicated it was concerned that too many bombs had been wasted concentrating on the abutment of Thanh Hoa Bridge and aiming at the end of the bridge. BDA showed many "miss" craters up to 700 feet away from the approach end of the bridge, which was 540 feet long and 56 feet wide. The concrete abutment appeared to be from 30 to 40 feet thick which suggested that aiming between the approach end and the abutment would require an unreasonably high expenditure of bombs at the current accuracy rate. Skip bombing at the exposed side of the abutment appeared risky and of little value. If the bombs detonated on the skip, an aircraft would be lost. Blasting of the exposed surface of a 30-40 foot abutment with M-59 or 750 pound bombs offered little chance of dropping the span without expending a prohibitive number of bombs. Accordingly, PACAF agreed that the sorties against this target should be held to an absolute minimum in accordance with 13 AF's recommendation that random hit and run attacks by small units of

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four to eight be employed. It recommended that all flights aim at a point halfway between the center of the bridge and the east end with the objective of cutting the girders rather than the abutment. The new AGM-12C's with pylons would be available in July and PACAF wanted the first test of this weapon on the Thanh Hoa Bridge. <sup>74/</sup>

On the 3 April air strikes in the Thanh Hoa area, a total of six aircraft were lost, which gave an early indication of the difficulty which could be expected in hitting such targets. The mission also revealed the danger which could be anticipated from the CHICOM/DRV air force. The MIG threat had been early recognized as a distinct danger as the attacks moved further north. MIG's had been sighted during missions in March and on one occasion, the pilot definitely identified the enemy aircraft as having Chinese markings. <sup>75/</sup>

The shooting down of the two F-105's by MIG's was the result of a careful enemy plan of attack. The attacking flight of USAF F-105's, Zink Flight, had been in the orbit area three or four minutes and completed nearly 180 degrees of turn when Zink 03 spotted four aircraft making a diving, high speed pass toward the flight. At the time of sighting, these aircraft were some 3000-4000 feet behind the flight. Two were set to attack Zink 01 (Zink Leader) and Zink 02 while the other two were positioned to attack Zink 03 and Zink 04. Zink 03 made several radio calls to Zink leader, telling them they were under attack and to break. Other

[REDACTED]

radio calls were being made by friendly aircraft giving the enemy aircraft positions. Zink 04 also tried to contact Zink leader. Neither Zink leader nor Zink 02 reacted in any way to these calls. The attacking MIG's closed in at high speed on Zink 01 and Zink 02 and continued firing until it was obvious that both planes were hit. They then stopped firing and continued straight ahead at high speed. 76/

Although the MIGCAP for this mission consisted of eight F-100's and four Navy F4B's, they were not able to respond to the MIG attack due to the speed at which the attacks occurred. Debriefs indicated that the attacking MIG's may have been under GCI control. The RESCAP F-100's were approached by MIG's while orbiting off-shore east of the target area. The flight jettisoned ordnance and turned into the attacking MIG's. One pilot managed to get behind an attacking MIG and claimed a single hit on the enemy plane's right stabilizer. 77/

The LOC interdiction operations south of the 20th Parallel continued during the week of 6-12 April when seven Rolling Thunder missions were flown. Primary targets were the Tam Da railroad bridge, the Qui Vinh railroad bridge and the Kim Cuong highway bridge. Armed recce missions were made on Routes 1, 7, and 8. On these strikes, the level of damage desired against primary target bridges was the dropping of at least one span with re-strikes authorized, but requiring Washington approval. Strike aircraft returning from attacks on the Tam Da railroad bridges and the

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Qui Vinh bridge could expend unused ordnance on rolling stock and military vehicles on Route 1 road and rail lines south of the Cong Phuong Bridge. Armed recce could be flown day and night with not more than 24 armed recce strike aircraft sorties per 24 hour period authorized. <sup>78/</sup>

Authorized  
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The Tam Da railroad bridge was struck on 9 April by 35 Navy strike planes on one strike and 48 on a re-strike. The north and center spans were dropped on the second strike. The Navy lost an F4B in a MIG engagement on the first strike with an A4C shot down on the second. Forty-eight USAF F-105's struck the Qui Vinh Bridge and the same day, dropping a span. The planes went on to strike the Khe Kiem Bridge, a secondary target, which was completely destroyed and then proceeded to drop a span on the Phuong Can Highway Bridge, another secondary target. The three bridges were knocked out of commission with no losses of friendly aircraft. <sup>79/</sup>

On the 10th, 32 Navy strike planes attacked the Kim Cuong Highway Bridge and dropped a span, using MK-81, MK-83 and MK-84 ordnance. <sup>80/</sup>

Despite the destruction of highway bridges south of Thanh Hoa, there was believed to be no significant reduction in the North Vietnam capability to move personnel and supplies. By-passes and the ability to move materiel in small increments by man-pack and animal transport made up for the loss of road and rail traffic. The availability of ferry or fording sites, which most of the destroyed bridges had replaced, still allowed the movement of supplies. <sup>81/</sup>

The LOC interdiction program south of 20 degrees North continued during the week of 13-19 April with sixteen missions flown by the

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Navy and the seven missions by USAF and VNAF. Most of the missions were armed recce, but attacks were made on seven bridges, three of which were destroyed by the Air Force and three by the Navy. By the 20th of April, Rolling Thunder sorties had destroyed 14 bridges, which served the principal rail and highway system on Route 1, affecting the movement of industrial and agricultural goods and taxing bridge repair units. However, the degree of degradation of North Vietnamese military support to Viet Cong and Pathet Lao units as a result of this program was not clear. 82/

After 23 April, MACV indicated that the weather would be increasingly favorable to stepped-up air operations against North Vietnam. The fifth week of Rolling Thunder would implement Phase II of the program for cutting lines of communications and this was scheduled to begin on 23 April. It would involve persistent armed recce and re-strikes ranging over the entire line of communications network below 20 degrees North at a tempo of some 75-100 sorties a day (525-700 a week). This equalled 33 to 44 percent of the 225 sorties a day, which were determined to be the sustained capability of currently deployed PACOM forces. VNAF would be held to 50 sorties a week on a sustained basis in support of Rolling Thunder. 83/

NOTE: FOOTNOTES  
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1459 OF 01/0101  
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Whose  
Phase II

MACV said that by the end of the fifth week of Rolling Thunder, the air strikes would have attacked 17 to 23 radar sites below 20 degrees, barracks areas directly identified with infiltration and all but two of the identified ammunition and supply areas and port facilities below 20 degrees. 84/

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MACV said this program should effectively immobilize road communication below the 20th parallel and cut this area off from the rest of North Vietnam. It would interdict substantially the Viet Cong material support which depended on land lines of communication. The infiltration of personnel would also be slowed, North Vietnam forces would be forced to live off the land more often, and the requisitioning of peasant housing would impair local morale. Further, the progressive destruction would make it more difficult to repair bridges, and with land movements becoming increasingly perilous, North Vietnam forces would be isolated logistically from the Hanoi area, MACV said. 85/

MACV added, however, that North Vietnam would still remain a viable nation with the richest, most productive area (north of 20 degrees) unharmed. With CHICOM support, the North Vietnam government could function indefinitely despite some unrest among the civil populace and military, especially those deployed to South Vietnam. 86/

MACV recommended that air strikes be kept below the 20th parallel until enemy MIG's interfered with operations. Then, the U. S. should respond with the progressive execution of Annex R in OPLAN 37, the air campaign against the most significant targets in North Vietnam. 87/

For the sixth through the ninth week of Rolling Thunder, MACV recommended continuation of the LOC interdiction program plus attacks on remaining radar sites as they were located. Simultaneously,

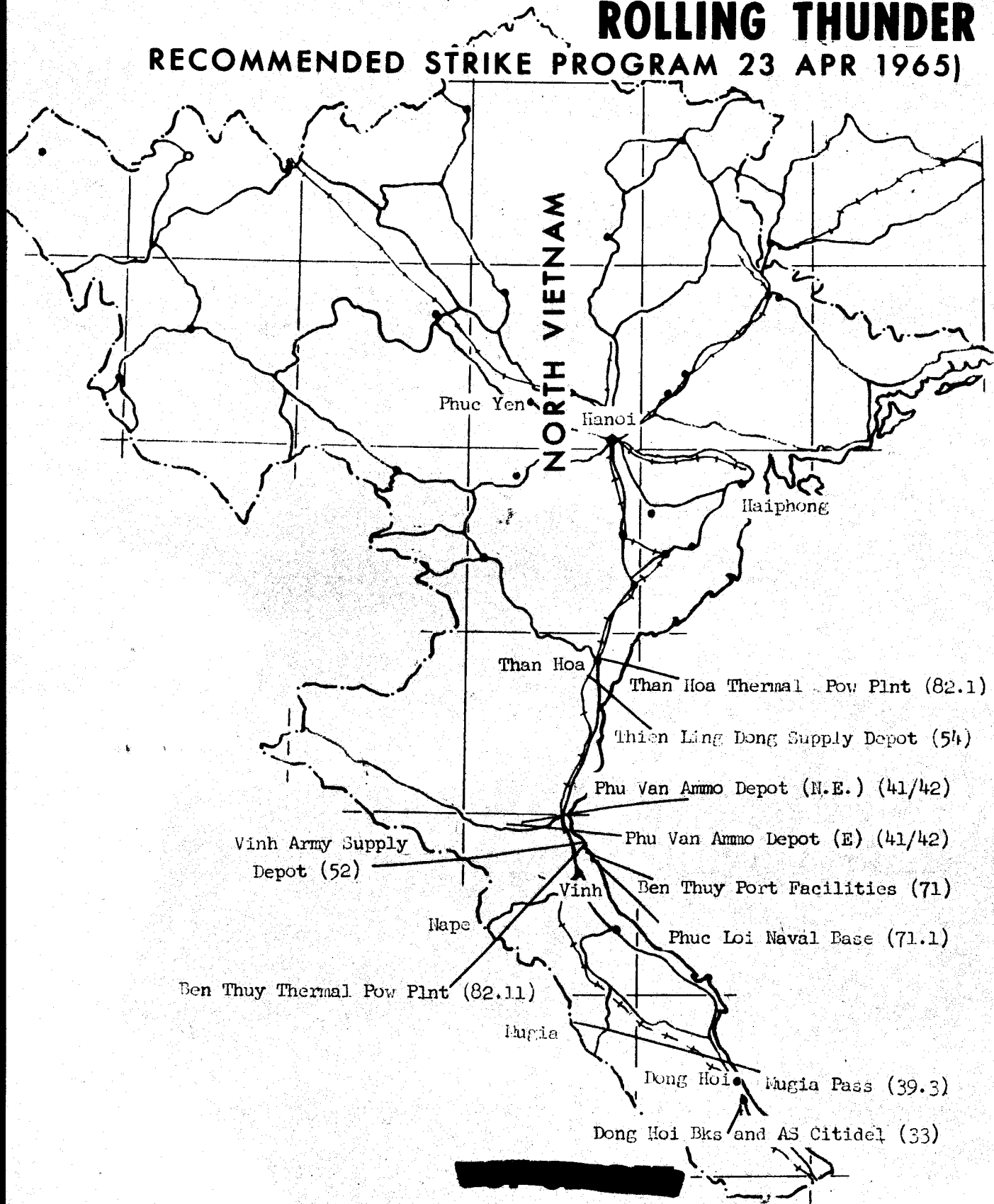
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attacks should be made on the remaining airfields, bridges, ferries, ammo depots, supply depots, port facilities, communication facilities below the 20th parallel at the rate of three to four targets and 100 sorties a day. When this was accomplished, attacks should be made on all military headquarters and barracks areas below the 20th parallel. 88/

In considering resources for this program, MACV thought additional deployments of airpower would help, such as the deployment of the USAF F4C squadron to Ubon, the second USAF F-100 squadron to Da Nang, and the Marine F4B squadron at Da Nang, plus the gradual increase in the number of B-57's at Bien Hoa. These aircraft could be committed to the four major programs, which were being carried out, including Rolling Thunder, Barrel Roll, Steel Tiger, and in-country operations. With all these programs on the increase, the maximum operational flexibility would be required to permit such moves as diverting strike aircraft from cancelled missions to missions that were fraggged. MACV felt that in-country air missions, although not tied to a specific JCS program, should have the highest priority. 89/

In response to a JCS request for recommendations for an optimum air strike continuation program commencing 23 April, CINCPAC recommended continuing pressure on the North Vietnam logistic network south of 20 degrees, mounting the maximum feasible sustained sorties. These would be used in a series of wide ranging armed recce, harassment, attrition and interdiction missions against

**ROLLING THUNDER**  
**RECOMMENDED STRIKE PROGRAM 23 APR 1965)**



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rolling stock, truck shuttle operations between LOC cut points and pre-briefed strikes against secondary fixed military targets along the LOC's. He envisaged a continual daylight route recce using 2-4 aircraft per route or route segment, with occasional night missions to offer an element of surprise plus harrassment. 90/

Concurrent with this program, he recommended air strikes against the following fixed targets: (1) Thanh Hoa thermal power plant, (2) Ben Thuy thermal power plant, (3) Ben Thuy port facilities, (4) Phuc Loi Naval base, (5) Vinh Army supply depot, (6) Thien Linh Dong supply, (7) Phu Van ammo depot, east, (8) Phu Van ammo depot, northeast, (9) Mu Gia Pass, (10) Dong Hoi AS Citadel, and (11) Dong Hoi barracks. 91/

After this program, he wanted maximum intensity strikes against "meaningful" targets north of 20 degrees, avoiding Hanoi and Haiphong. He listed targets in a sequential progression moving north and northwestward, but indicated that targets didn't necessarily have to be conducted sequentially from south to north. The targets were (1) Quang Sugi Barracks, NE, (2) Qui Hau ammo depot, west, (3) Xom Chang supply depot, (4) Can Xom Lom barracks, (5) Ban Phung Hoy ammo depot, (6) Son La Army supply depot, (7) Son La barracks, (8) Thuan Chau barracks/depot, (9) Dien Bien Phu barracks. 92/

Along with these air strikes, the armed recce program would be expanded to include the rail and road route going north of 20 degrees from Ham Rong, Route N-6 from Suyut to Sam Neuv; the

[REDACTED]

route from Suyut to Mounng Min and Route N-19 from Dien Bien Phu to Tay Chang Pass. As these actions were being taken north of 20 degrees, VNAF, supported by U. S. forces, would be programmed to conduct air strikes and armed recce against the target spectrum and LOC network south of 18 degrees. 93/

CINCPAC said there was little information on which to assess Rolling Thunder effects to date. He believed North Vietnam was playing a waiting game, hoping that international pressure would force the U. S. to stop its attacks. The continued strikes would reduce support of the VC, he said, and degrade the transportation system, requiring a diversion of manpower and supplies to the recovery and rebuilding process. The effects might take some time to show themselves. As the attacks moved north, the MIG threat increased but CINCPAC felt this could be handled by F4 aircraft. "We may well gain valuable experience in the coming weeks", he concluded. 94/

At a joint RVNAF-MACV meeting held in April, Air Vice Marshal Ky, the VNAF commander, proposed making PAVN headquarters and barracks south of the 20th parallel priority targets in order to destroy PAVN morale and show the populace its vulnerability. He also suggested continuous night attacks by the VNAF below the 20th to harass the populace in their effort to go to market, movies, or work. Further, he wanted a psywar campaign to explain why the attacks were being made, that they were partly carried out by VNAF, and what North Vietnam must do to end them. He suggested

[REDACTED]

a zone of insecurity below the 20th parallel in which the RVNAF could introduce agents, saboteurs, and company-sized Special Forces units to provide intelligence, engage in unconventional warfare activities, and persuade Vietnamese in the area that they could escape from the communists. If the North Vietnamese strategy was to control I and II Corps, this zone of insecurity would defeat their effort by forcing them to divert resources. 95/

Ky also said that the CHICOM's would not enter the war if activity remained below the 20th parallel that North Vietnam would not attempt a large scale invasion of RVN, and that the populace below the 20th parallel would be responsive to RVN activity. 96/

COMUSMACV concurred in Ky's proposals but withheld judgment on the "zone of insecurity" until he could determine the RVNAF's capacity to carry it out". 97/

At the OSD conference in Honolulu on 20 April, the Secretary of Defense, Mr. McNamara, said that the Rolling Thunder bridge operations were good but that the armed recce was not accomplishing results worth the resources. He said in effect that we have been wasting air operations over the last 20 years, and particularly during World War II, as far as destruction was concerned. Admiral Sharp requested authority for alert armed recce sorties in addition to the 24 daily sorties currently allocated. 98/

*McNamara  
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- notes.*

*McNamara*  
~~Admiral Sharp~~ at the meeting was critical of Barrel Roll and Steel Tiger results but the Secretary of Defense seemed to favor armed recce in Laos over similar programs over North Vietnam. 99/

SEE MSGS  
OF 23 APRIL 65  
McNAMARA, NOT  
Sharp, was  
critical  
of A-1H  
B/R & S/T.  
RESULTS

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The Secretary of Defense felt that too few sorties were projected within the RVN and too many for Rolling Thunder, Barrel Roll, and Steel Tiger. He later said that if there were requirements for close support that were not being met in RVN he would introduce more squadrons. 100/

In commenting on armed resce, the Secretary of Defense voiced doubts about the program in North Vietnam, saying that losses should be measured in terms of destruction achieved and not in relation to sorties. 101/

The biggest Rolling Thunder effort to date was launched on 23 April with some 285 tons of bombs dropped on seven bridges, all of which were destroyed. This heavy pressure continued for the next week in strikes against bridges, ferries, naval installations, coastal shipping, and barracks. On 30 April, a strike was flown against the Thien Linh Dong Army Supply Depot, about 75 miles from Hanoi. Strikes continued into May on an intensified scale with several strikes in the Vinh area, including an attack on Vinh Airfield on 8-9 May. 102/

As of early May, the forces engaged in strikes against North Vietnam were still limited to the area south of the 20th parallel. Targets attacked included ammo and supply depots, military barracks, port facilities, airfields, radar sites, and lines of communication, including rail and highway bridges. The results of these missions, as verified by BDA, indicated that U. S. airpower was inflicting significant damage to North Vietnam. Reports filtering out of

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North Vietnam indicated considerable unrest among the civilian populace, with many women and children being evacuated from Hanoi itself. Positive precautions were being taken in the form of anti-aircraft defenses around the city. While it was difficult to assess how these strikes were affecting the war in the south, PACAF said that it was safe to assume that continued pressure by air against North Vietnam would be felt by the Viet Cong and Pathet Lao in the form of logistics problems. 103/

PACAF was anxious to extend the area for air strikes above the 20th parallel in order to serve notice to North Vietnam that the U. S. did not intend to continue sanctuary status above the 20th. PACAF further wanted to continue the interdiction program, to include destruction of supply points and LOC's above the 20th, as a means of enhancing and supporting the current choke point and interdiction program in Laos. PACAF also recommended to CINCPAC that attacks against the North Vietnam include random strikes of specific target areas from the expanded "94 target" list above the 20th parallel rather than continue the gradual extension northward. This would reduce the capability of North Vietnam to provide warning and defensive reaction against the Rolling Thunder program. Included in the list of random targets proposed by PACAF above the 20th parallel were the Haiphong POL products storage area, the Hanoi POL products storage depot, the Hanoi Gia Lam Airfield, and the Phuc Yen Airfield. 104/



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Special reconnaissance over North Vietnam in May showed that prior to the special Rolling Thunder program (13 May) they had become accustomed to BDA flights in support of strikes and sporadic armed recce of main LOC's. It appeared that North Vietnam had decided to accept the risk and continue to move supplies during the daytime. This was probably the reason, according to PACAF, that many vehicles, were sighted during the first day of the current effort. The dramatic drop-off in vehicle sightings after 184 recce flights in three days, and the relative ineffectiveness of night recce by comparison, indicated a switch to night movements, a pattern which had previously been observed in Laos. 105/

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As was experienced in Laos, the enemy made considerable efforts to maintain the movement of traffic on vital LOC's. Attempts were made to repair key bridges. Where this was impracticable alternates such as fords, ferries, and barges were used. It was also anticipated that alternate roads or trails would be developed as bypasses and that increased emphasis would be placed on portages, porter traffic, and small vessel water transport, both inland and on the coast. 106/

This was  
2200  
18 May  
note

PACAF, therefore, suggested that interdiction operations concentrated on armed recce by day and night over the main LOC's leading to Barthelemy, Nape, and Mu Gia Passes on Routes 7, 8, and 12, (as well as routes 1 and 15) respectively. It also suggested that road interdictions be directed at choke points in North Vietnam and Laos on a more concentrated and selective basis and that

This was  
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a flexible attack program be directed at new truck parks, transshipment points, ferries, barges, and river traffic which were developed after successful bridge destruction. 107/

A program to isolate the city of Vinh and reduce its capability to serve as a center for logistic support in southern North Vietnam was directed by CINCPAC on 11 May. A concurrent program for interdicting rail traffic, including bridges was also directed. To carry out the program, PACAF suggested using two ship flights of F-105's to drop five MLU 10B mines each in shallow dive attacks on railroad tracks beds. If the fuse of these mines was not activated by rail traffic, delayed fusing would cause detonation in 75 to 85 hours. These mines could be delivered in the afternoon with little risk and followed the next day by armed recon which could hit any stopped trains. 108/

*Bombing  
had  
began on  
12 May*

CINCPAC, evaluating the results of the first fourteen weeks of Rolling Thunder, told the JCS that the air attacks against North Vietnam had disrupted rail and road movements, and completely changed the pattern of logistic support into Laos. It was there that the first concrete military results of the strikes would be seen. The Laotian communists were more directly dependent on North Vietnamese support than the Viet Cong and the cumulative effects of the strikes would be realized as the difficulties of the rainy season added to the effects of air interdiction. 109/

CINCPAC indicated that there was some doubt as to how much remained to be done south of 20 degrees North. The destruction

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of North Vietnamese military and logistic support facilities south of 20 degrees has just begun, he added. Within four of the major barracks complexes attacked, roughly two thirds of the 674 known buildings remained undamaged. Of three major ammo storage depot complexes struck, 40% of the 46 known ammo storage and 56% of the 95 known depot support buildings had been destroyed or damaged. The surface had barely been scratched on striking North Vietnamese shipping and port facilities. Despite the success of bridge attacked, the major portion of the bridge and ferry system was still intact. Newly developed dispersal, staging, rest, and refueling areas were yet to be attacked. 110/

The immediate military objective of the strikes, he said, was to reduce the movement of personnel and supplies to support the Viet Cong and the Pathet Lao/Viet Minh. However, in the effort to do this, the U. S. should strive to convince North Vietnamese leadership that U. S. staying power was greater than theirs. This could be done by raising their direct costs in terms of manpower and military, logistic and support facilities, as well as in indirect economic effects. Secondly, and perhaps more important, the air campaign should generate pessimism and a feeling of helplessness among the military, and general frustration, anxiety, and fear among the civilian populace. Lastly, CINCPAC added, the U. S. should present the North Vietnamese government and military with an every growing management problem. The cumulative effect of these internal problems should turn North Vietnam's attention

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inward rather than outward. The total impact would be realized in the degradation of supervision, military training, cadre replacement, and build-up for Laos and Republic of Vietnam as well as a reduction of supplies. By making it as difficult and costly as possible for North Vietnam to support the insurgency in Laos and the Republic of Vietnam, success could be realized when they were convinced that the cost of aggression was too high. 111/

CINCPAC further stated that it was certain that interdiction, even when a maximum feasible damage level was attained, could not be expected to stop completely the flow of supplies to the Viet Cong through southern North Vietnam and Laos routes. Further, the U. S. could not predict how successful the Viet Cong would be in getting weapons and ammunition through other sources and channels. The capabilities and limitations of airpower, he said, had to be carefully weighed within current political parameters and the vulnerabilities of North Vietnam in this framework. 112/

CINCPAC proposed a concept which would call for an ubiquitous demonstration of U. S. airpower carrying out a round-the-clock program of immobilization, attrition, and harassment. Specific types of missions to do this included extensive day armed reconnaissance of land and inland waterway routes south of 20 degrees; night blockade tactics; continued route interdiction south of 20 degrees; repeated attacks on known military facilities in this area by a small strike force; destruction of dispersed supplies, equipment, and military personnel; and stepped-up interdiction of supplies by sea

[REDACTED]

through attacks on port facilities and identified North Vietnam shipping. 113/

These missions, he added, should be accomplished on an incremental basis by repeated strikes by appropriate number of aircraft. There was more than enough airpower available to keep unrelenting pressure on North Vietnam. This pressure was less than it could be because of certain self-imposed operational restraints. It was possible without altering the necessarily rigid control of the Rolling Thunder campaign to increase the effectiveness of airpower by combining greater number of armed recon flights with small precise bombing attacks on pre-briefed military targets. This would provide maximum surveillance with its prohibitive effect on military movements in North Vietnam, along with effective attacks of military objectives. The armed recon flights would be augmented by other small flights of pre-briefed or on-call aircraft. Analysis had shown that the desired damage level on certain type targets could be achieved with less strike aircraft per target, while at the same time maintaining maximum area harassment of repair efforts through these frequent and unpredictable pattern of attacks. 114/

The air operations, CINCPAC added, should contain a mixed bag of tricks, including stepped-up night operations with flareships, more frequent use of delayed fuse weapons to further harass repair activities, and the establishment of fixed surveillance points immediately inside the North Vietnam/Laos border. 115/

[REDACTED]

While he believed that larger scale attacks had a place in the campaign, CINCPAC indicated it was well to get away from the policy of inflicting maximum feasible damage in a one day strike. It was better to hit larger targets incrementally over a period of days based on BDA. The current system of carrying out a strike in a one day period had become too stereotyped, he added. Incremental strikes would give greater latitude in marginal weather, allow for better employment of strike aircraft, and would probably result in greater and more precise damage to the primary targets and reduced U. S. losses. Large scale strikes should be programmed against major military installations ranging northwestward to Dien Bien Phu. These larger strikes would be scheduled in consonance with the developing situation as political and psychological considerations made them appear desirable. The attack on Dien Bien Phu could be launched to attain maximum destruction, CINCPAC said, as this attack on a prestige target would be felt throughout the Asian communist world and its role in resupplying Pathet Lao/Viet Minh forces in Laos could not be underestimated. 116/

CINCPAC wanted to complement the strikes with intensified psychological operations, telling the people that the U.S. had no quarrel with them and that they should avoid military installations. The themes should be hammered home that the intent of the strikes was to destroy the North Vietnamese military capacity and that the U. S. was determined to continue until the military left their cousins in peace. 117/

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On 11 May, DOD ordered a pause in strikes against North Vietnam to last for several days effective 13 May 1965. Photo and visual recce missions were allowed to continue during this pause, so long as they could be carried out without flak suppression aircraft or escorts. Bombing sorties, which would have been applied to North Vietnam strikes during this period, were directed to in-country strikes. This restriction, of course, applying only to those aircraft based in the Republic of Vietnam or off-shore. 118/

This "bombing pause", which lasted until 18 May, was a political decision based on diplomatic contacts with the Hanoi government. Rolling Thunder strikes were resumed on 18 May. 119/

This specific goal of the Rolling Thunder program, according to Secretary of Defense, was to destroy targets essential to the infiltration of men and materiel into Laos and South Vietnam within limitations imposed by higher authority. To do this, the program resumed in late May, was to be directed against certain categories of targets south of the 20th parallel, avoiding population centers. These targets were (1) LOC's, including land transport systems, storage areas, inland waterways, and coastal shipping, (2) military installations, including barracks and headquarters, training facilities, communication facilities, ammo dumps, POL storage, supply areas, airfield and naval bases, and (3) thermal power plants. Strikes against fixed targets could be accomplished on an incremental basis by scheduling appropriate numbers of aircraft for repeated strikes, as indicated by BDA. In addition to attacks against

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fixed targets, extensive day and night armed recce would be conducted over North Vietnamese LOC's from the DMZ to the 20th parallel, including estuaries and coastal islands. The objective of armed recce would be the maximum interdiction of LOC's through surveillance and destruction of targets encountered, including railroad rolling stock, trucks, ferries, lighters, radar sites, secondary bridges, road repair equipment, bivouac and staging areas, naval craft mooring areas, North Vietnamese naval craft and other craft which fired on friendly aircraft. 120/

One strike per week was to be planned against a military target north of the 20th, avoiding the Hanoi-Haiphong area and population centers. Sorties used for this purpose would be in addition to 400 strike sorties a week authorized for allocation to attacks against fixed targets and armed recce. 121/

CINCPAC was to forward to the JCS a weekly plan of operations by 0900Z each Thursday. The first plan covering Rolling Thunder 18, 11-17 June, was to be submitted by 030900Z June. This would include all targets, estimated strike sorties per target, and estimated strike sorties for armed recce. CINCPAC was to indicate which fixed targets would be included in armed recce missions and which would be used on a single strike or an incremental basis. 122/



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### The Enemy Anti-Air Threat

Since there were restrictions on strikes against the airfields where MIG's were based, CINCPAC in April asked his commanders to develop and submit to him by 15 April detailed plans to achieve maximum success in flushing and destroying MIG's when on strike sorties against targets of secondary importance. 123/

Earlier, the JCS had proposed baiting the MIG's with an attack on a significant target from the 94 target list and located close enough to Hanoi to be within reasonable range of the MIG intercept. The mission would appear as a realistic strike, similar to Thanh Hoa, but forces would be over the target with minimum air to ground ordnance and adequate fuel to maintain high airspeed. Fuel would be sufficient so that after external stores were jettisoned, fighters would have a full internal fuel load for optimum fighting endurance, with enough reserve to pursue the enemy as necessary. EC-121's over Tonkin Gulf would be used for early warning and GCI assistance, and a low to medium altitude F4C screen would be set up between the target area and the MIG base, using the basic F4C weapons to acquire and destroy hostile MIG tracks. F-104's would provide CAP under GCI control. If the MIG's penetrated the F4C and F-104 screen and attacked the strike forces, they would jettison external stores and pursue the MIG's all the way to home base if necessary, taking advantage of U. S. fighter speed and performance. The JCS felt that destruction of the target was of less importance than getting the MIG's to take the bait. 124/

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On 30 May, COMUSMACV notified CINCPAC that three SA-2 missile sites near Hanoi were nearing operational readiness and posed a potential threat to Trojan Horse recce operations. When the sites were operational, they could deny U. S. high altitude photo intelligence of the Hanoi area unless destroyed, he added. He also noted that information showed that there were IL-28 aircraft in North Vietnam for the first time. These represented a potential threat to air bases in Republic of Vietnam. 125/

SA-2  
IL-28

There were several factors, he said, which dictated the destruction of these SAM sites before they became operational. Trojan Horse high altitude photo intelligence could continue without high risk. Knocking out the sites one at a time just prior to their becoming operational would involve minimum risk and cost. Waiting for the first one to be activated would involve high risk and potentially high losses. The destruction of the sites would have a demoralizing effect on North Vietnam while giving the Republic of Vietnam a psychological lift. Finally, every SAM site allowed to reach completion would improve the defense of Phuc Yen Airfield, thereby increasing the risk of attack on South Vietnam airfields. 126/

General Westmoreland stated he believed the SAM sites must be destroyed and recommended attacking them one at a time whenever intelligence indicated the target was most lucrative but before it became operational. He said the 2d Air Division had briefed him on a plan and tactics for such an operation that appeared feasible and sound. He would not address himself to the political implications of such an effort. 127/

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PACAF in early June considered it a matter of military necessity that the North Vietnamese air threat be eliminated as soon as possible, by hitting both the SAM sites and the Phuc Yen airfield where both the North Vietnam jet fighter and bomber strength were based. PACAF further believed that allowing North Vietnam to expand its offensive air capability would be an open invitation to air strikes against South Vietnam's friendly bases. To preclude a possible disaster to Da Nang and eliminate interference with Rolling Thunder missions, PACAF wanted early destruction of the threat at Phuc Yen. If MIG's and IL-28's were deployed to other bases, the task would be more difficult but PACAF considered its air resources adequate to strike any or all North Vietnam air bases. 128/

Radar coverage over the northern portion of South Vietnam was not considered adequate to satisfy the increasing air threat which the MIG/IL-28 buildup posed, according to PACAF. An additional radar which would give overland low level coverage (500-100 feet) out to at least 50 NM beyond the DMZ was urgently needed. A UPS-1 type radar at Dong Ha would provide this coverage. For improved high level coverage, it suggested a USN picket ship be positioned in an optimum location to complement the land based radar coverage at about 18 degrees, 30 minutes north and 107 degrees west. Additional Hawk units at Qui Nhon, Nha Trang, Bien Hoa and Tan Son Nhut were considered desirable. Overall airfield defense posture would be helped by adding anti-aircraft guns to the airfields defenses. Acquisition radars associated with the Hawk units at Qui Nhon and

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Nha Trang would provide the seaward low level coverage required in those areas. PACAF proposed augmenting these Hawk units with USAF weapons controllers in order to provide continuity of air defense efforts. 129/

The problem of security involved in placing a UPS-1 radar at Dong Ha could be met by placement of a land force of comparable strength to the force at Hue Phu Bai. 130/

PACAF asked that six Marine F4B's at Da Nang be made available for air defense. Leaving the F-102's in their current status, this would place two F-102's on five minute alert, two on fifteen and two on one hour. The same would be true for the six Marine F4B's. During Rolling Thunder or periods of increased air alert, all twelve aircraft could be placed on five minute alert. 131/

To get around the problem of base congestion, PACAF suggested expansion of existing parking facilities by use of new materials such as AM-2 aluminum matting. The completion of the new runway at Da Nang East would allow better dispersal. 132/

PACAF also suggested a third battery of Hawks be deployed to complement the two in place at Da Nang. Another Hawk element of not less than two fire units should be deployed near Chu Lai when aircraft were positioned on the base. This unit would be integrated into the Monkey Mountain complex. PACAF noted that the Monkey Mountain and Chu Lai complexes were presently secure, thus giving maximum increased effectiveness with the least cost and effort. Anti-aircraft guns at Da Nang would assist in securing this base. 133/

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While these air defense proposals were submitted to CINCPAC to increase the air defense posture, PACAF reemphasized that the threat could be best neutralized by an early decisive strike on Phuc Yen and the SA-2 missile sites located near Hanoi. The economy in life and material which such a strike could afford, when compared to a passive and semi-active air defense effort, could not be overstated, it concluded. 134/

While recognizing the value of early attacks on Phuc Yen and the missile sites, CINCUSARPAC reported to CINCPAC that the overriding considerations for such a decision were political and psychological. This would include the effect on North Vietnam/CHICOM/USSR, the effect on the overall plan for graduated pressures on North Vietnam, and the effect on U. S. and allied public opinion. CINCUSARPAC did not possess adequate information to comment on these aspects. However, he mentioned a final consideration that if an attack on Phuc Yen or the SA-2 sites should trigger overt CHICOM intervention and/or North Vietnam attacks across the 17th parallel, U. S. forces would be in much better position to counter such an attack "several months hence", after the completion of planned deployments. 135/

CINCPACFLT, in reply to the request from CINCPAC concerning the feasibility of an attack on MIG bases, said that the timing of the Phuc Yen attack should not be affected by the operational status of the SA-2 sites. The attack could be made so as to avoid the missile envelope. An operational SA-2 site should be attacked by aircraft only when its presence was denying friendly

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forces the attainment of a military objective. The immediate military necessity, CINCPACFLT said, was to neutralize the air threat presently in place at Phuc Yen. The current CINCPAC plan to strike Phuc Yen was valid, calling for a night attack by SAC - 13-52 forces, followed at first light by armed recce by PACOM forces on all airfields in the Hanoi/Haiphong area. 136/

COMUSMACV recommended that missile sites at Phuc Yen and elsewhere be attacked before they became operational. To avoid alerting the enemy by prior recce, he wanted the strikes made without prior low level recce. Trojan Horse photography was considered adequate for strike purposed by 2d Air Division. While acknowledging that attacks on Phuc Yen SA-2 sites would be costly and could provoke a USSR/CHICOM reaction, COMUSMACV said that the U. S. could ill afford to allow the Hanoi area to become a North Vietnam sanctuary. The concentration of aircraft at Phuc Yen airfield and the threat of low level attacks by these aircraft against U. S. installations in South Vietnam made it prudent that the North Vietnam air capabilities be destroyed while concentrated and vulnerable. 137/

There was some concern in June over the aircraft losses incurred on Rolling Thunder operations. The success of North Vietnam in bringing down U. S. aircraft, according to CINCPACFLT, was due to the current parameters of the strike program which created a stereotyped pattern of operations. The Rolling Thunder programs were conducted generally in a seven day time frame. In

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each program, PACOM forces were assigned six targets. The desired damage level was established as "maximum feasible" and small strike groups were approved and encouraged. The result of this pattern was to give the enemy an advantage since he knew six targets a week would be hit at random intervals. The same six targets would be hit repeatedly until the desired damage level was reached. The enemy knew each strike group was small and that aerial photo and BDA would follow each strike. As a result of this stereotyped operation, CINCPACFLT said, the enemy was able to concentrate his AA within a limited number of target areas and against a relatively small number of aircraft for a given target area. 138/

CINCPACFLT said that concentrated enemy AA forced U. S. planes to adopt delivery tactics which did not result in optimum weapon effectiveness. While the Bullpup missile was used as a stand-off weapon with some success, the Snake Eye series of bombs were developed to improve CEP and permit a low level delivery. The Snake Eyes, however, could not be used on most of the fixed targets due to altitude restrictions on strike aircraft necessary to counter concentrated and effective AA. The use of napalm was minimized for the same reason. 139/

The practice of giving the tactical commander only a relatively short period of time to achieve maximum feasible damage on a given target, could result in attacks carrying less than optimum ordnance. For example, limitations on visibility could require an attack with bombs against a target more suitable for Bullpup delivery. 140/

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CINCPACFLT recommended that the number of approved targets for a given period be increased, allowing the tactical commander to vary his target selection. He wanted to delete the requirement to achieve maximum feasible damage within the approved Rolling Thunder period. The tactical commander could concentrate his effort on targets which promised the largest gain for the risk involved. He wanted to increase the Rolling Thunder period to two weeks to ease the management of the program and increase the flexibility of the commander. In summary, he said, the limited number of targets, the requirement to obtain maximum feasible damage, the approved Rolling Thunder period, and the standard Rolling Thunder period of about seven days, had stereotyped operations and offered the enemy tactical advantages in defense which were not warranted. 141/

ECM aircraft, introduced into the 2d Air Division on 8 May 1965, were proving most effective in reducing the enemy's capability to direct anti-aircraft fire by radar. The four aircraft shot down in the period between 8 May and 30 June were the result of factors other than radar directed fire. Two were lost to barrage attack, one to a low level attack where optic sighting was employed and one on a day when the RB-66 was not on station due to the off-scheduled arrival of strike aircraft. ECM operators were consistently reporting a capability to break the Firecan "lock-ons" made by Firecan radars. They also doubted the capability of Firecan to read through jamming for ranges more than 22 miles. 142/



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This was important since North Vietnam had demonstrated a capability to construct, occupy, and operate an 85 MM radar controlled gun position within six days. These weapons could be concentrated in certain areas which the enemy could probably predict based on the number of days and number of times in which targets would be attacked in a particular time period. The Air Force Component Commander in SEA was limited in his choice of tactical decisions by not having the authority to select from a range of targets and by not being permitted to select the frequency of attack. 143/

The primary threat to U. S. aircraft striking against targets in North Vietnam as of 30 June was the 3000 plus AA weapons in place, SA-2 and the additional weapons which are being steadily added to the inventory. Five SA-2 sites had been located by early July with another under construction. The enemy in early July had 66 MIG-15/17 aircraft and eight IL-28's, all located at Phuc Yen. 144/

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Strikes Above the 20th Parallel

The JCS execution message for Rolling Thunder 18, for the week of 11-17 June, called for strikes and armed recce missions on a series of targets above 20 degrees North. For safety of forces and reduction of risks in attacking targets in heavily defended areas north of 20 degrees, air elements were authorized to execute the attacks with relatively small elements in a series of attacks spread over the seven strike days to insure maximum achievement of desired damage levels. 145/

The decision on the Rolling Thunder program for the week of 25 June - 1 July had not been made on 21 June. For planning purposes, CINCPAC was told that Rolling Thunder 20, planned for that period, was designed to maintain the graduated increase of pressures on North Vietnam by air strikes to the north; continue the attacks on remaining suitable targets in southern North Vietnam; and maintain the interdiction of LOC's by armed reconnaissance. In addition to five fixed targets for U. S. aircraft and two for the VNAF, armed recce was permitted for U. S. forces northwestward to 21-26-10 North and 103-41-49 East, remaining outside a 40 NM range of Hanoi. VNAF armed recce was to cover the area between the DMZ and 19 degrees north. 146/

To reduce risks and economize on forces in attacks north of 20 degrees North, CINCPAC was authorized to attack in successive small elements in a series of attacks spread, if required, over

[REDACTED]

several strike days, to achieve the desired damage levels. Emphasis on armed reconnaissance by U. S. aircraft was to be placed on routes emanating from Vinh to restrict traffic in and out of this important LOC hub. A maximum of 200 sorties was authorized for the seven day period. VNAF target sortie requirements beyond the capability of VNAF could be filled by U. S. aircraft. 147/

To clarify some misunderstanding regarding use of incremental strikes to achieve desired damage levels, CINCPAC in June clarified the current Rolling Thunder policy and guidance. He noted that he authorized use of relatively small elements in a series of attacks over specified strike days to allow the maximum achievement of the desired level of damage. This was not to be interpreted as an arbitrary directive restricting strike forces to small numbers in all cases. The intent was to provide operational flexibility and enhance force effectiveness and safety, and not to reduce the ultimate desired damage level. The determination of the composition of the individual strike force was to be based on size and type of target, operational variables such as AA defenses, weather, other tasks to be accomplished, and forces available. As a general rule of thumb, he said, the damage objective should be not less than 50% during the Rolling Thunder period for the average size and type of target. The operational commander had to exercise judgment on a target by target analysis based on the operational situation. 148/

The direction of the Rolling Thunder program was laid down in the operations order prepared by CINCPAC in June. The order

[REDACTED]

said that the strikes were designed to maintain the graduated pressure on North Vietnam by conducting air strikes, coupled with attacks on remaining suitable targets in southern North Vietnam and continued interdiction of LOC's by armed recce. The objective was to cause North Vietnam to cease and desist in its support of the insurgency effort in SEA. 149/

Instructions for these attacks provided for the use of carrier aircraft from ships in the South China Sea, VNAF forces, and Thai-based aircraft, the latter being used in coordination with the U. S. Embassy in Bangkok. Strikes on population centers were to be avoided. The timing of strikes was at the discretion of commanders with TOT's coordinated to insure no confluct. Maximum feasible damage was defined as that which neutralizes or renders the target ineffective and/or unable to accomplish its basic function. While small elements could be used in a series of attacks over the specified strike days, the tactical commander could launch a heavy strike when tactical considerations warranted. An anti-MIG screen was established between the target and the MIG threat when enemy air was expected, which to be outside the envelope of SA-2 sites in the Hanoi area. Active ECM operations against radars was authorized and an airborne early warning and picket station capability was to be used to the maximum extent feasible. 150/

Armed recce was to employ surveillance and destruction of military targets encountered, including railroad rolling stock, new railroad construction tracks, ferries, lighters, barges, radar sites, secondary bridges, road repair equipment, bivouac supply and maintenance areas. 151/

[REDACTED]

By the end of June 1965, the program for strikes against North Vietnam had become almost routine and the MIG threat which appeared in early April seemed to have faded away. Primary concern was centered on the new SA-2 sites going up in the Hanoi area.

Although the Rolling Thunder program had still not reached its peak, results as of 8 July were impressive. Sixty bridges had been destroyed and 152 damaged. There were 644 buildings destroyed plus another 678 damaged. Other results: 152/

	<u>Destroyed</u>	<u>Damaged</u>
Vehicles	53	35
RR Cars	22	16
Locomotives	1	1
Rivercraft	85	94
AA and AW Sites	27	19
Radar Sites/towers	1	15
Ferry Ships	6	25
RR and Hy Cuts	7	3
Bridge Approaches	12	22

AF FIGURES  
on  
AF 3rd Navy  
FIGURES?

By mid-July, 91 of the 117 JCS numbered targets south of 20 degrees North had been attacked. All POL storage areas and airfields were damaged, four being temporarily unusable. Twenty-two of the 24 JCS scheduled bridges south of 20 degrees had at least one span collapsed with another severely damaged. The Thanh Hoa Bridge, struck four times, was restored on a limited basis by the enemy, and sporadic re-strikes by U. S. Navy armed reconnaissance aircraft failed to collapse its spans. At least 100 other bridges, struck as "bonus" targets were made unusable. Also south of the 20th parallel, 1151 buildings were destroyed, 409 sustained severe

[REDACTED]

damage, and 677 received light to moderate damage. Nearly all of the JCS targets in the barracks/headquarters, ammo/supply depot category were hit. 153/

Although most Rolling Thunder strikes as of mid-July were south of 20 degrees, 18 out of the 132 JCS numbered targets north of the 20th parallel were struck as of 22 July. Two airfields, one supply depot, one POL storage, one island radar site, two coastal bridges, six ammo depots and five barracks areas were struck in the northern part of North Vietnam. Included were targets 40 NM south and southwest of Hanoi and extending northward from Nam Dinh to Dien Bien Phu, with some strikes taking place less than 40 NM south of the CHICOM/DRV border. 154/

Despite repeated attacks and confirmed building damage to radar and radio communication sites, these facilities remained relatively intact. Their inherent mobility, use of remote antennae, and lack of pinpoint intelligence resulted in very little gain from strikes against this elusive target system. The Phuc Yen and Cat Bi airfields in the Hanoi-Haiphong area were untouched. Nor had any of the five SA-2 sites been hit as of 22 July. Only two validated targets in the critical POL storage category had been struck, these being Phu Qui and Vinh. The largest naval bases at Haiphong, Hon Gay and Port Wallut had not been hit, nor was the port of Haiphong interdicted in any way. No strikes were made against locks and dams, which could disrupt canal traffic and flood agricultural areas and roads. Except for damage to three

[REDACTED]

thermal power plants, no industrial targets were struck. Thus there was still a potentially significant target area in North Vietnam which had remained free from air strikes as of 22 July. <sup>155/</sup>

As of 22 July, USAF, U. S. Navy, and VNAF planes had flown 6861 strike sorties against North Vietnam targets, expending 10,019 tons of conventional bombs, 3940 rocket pods, 179 anti-personnel bombs, 449 air to ground missiles, 57 CBU-2A pods, 5742 Zuni rockets (all U. S. Navy), and eight Lazy Dog containers (all USAF). Sixty-three aircraft of the U. S. Navy, USAF, and VNAF had been lost <sup>156/</sup> in strikes against the North Vietnam since 6 February.

A more personal picture of the results of Rolling Thunder strikes appeared in a broadcast over Peking radio in which one of its correspondents described the effects of the bombing: <sup>157/</sup>

"...I have visited numerous transport lines wantonly bombed by American planes, where I saw a heartening picture of the all-people transport line. On the transport lines which, as boasted by U. S. imperialism, were badly destroyed, trucks loaded with military supplies and consumer goods for factories on the front or villages filed through horsecarts, oxcarts and bicycles. This view was often lit up by flares from American planes whining overhead. Heavily laden boats sailed abreast with timber and bamboo rafts, while trains rumbled along overland.."

"The truck drivers put forward a militant slogan: 'be always ready to set out'. They drove in the dark and braved enemy's bombing and strafing to safely carry the passengers and goods to their destination. They kept on studying the method of using high speed to get away from the attacks of enemy planes and united closely to fight against the destructive schemes of the enemy. Once, a convoy on its way to the front encountered

[REDACTED]

enemy planes. The drivers immediately took to hiding by the roadside. As the planes kept circling overhead, driver Tran Quy Thi, for the sake of saving the whole convoy, stepped on the gas and raced along, thus luring the enemy away from its target. As soon as the planes of the U. S. marauders left, road maintenance workers and the local population organized themselves to repair the damaged road and bridges to insure normal traffic."

"On 9 April, the F bridge in a certain area was hit by the enemy. On that very evening, more than 3000 people rushed to the spot from all directions, carrying with them hurricane lamps and tools; and within a few hours, the bridge was put back to service."

"A section of a certain highway in Quang Binh Province was once heavily damaged by enemy planes. The repairing work was hindered by the presence of a large number of time bombs in the area. The Youth Shock Brigade of a certain county quickly defused and removed the bombs and filled up the bomb craters, thus enabling the convoy to pass."

"The local populations in various places have mobilized themselves to build many new roads, bridges, and culverts, in addition to repairing the damages... Militia Corps formed by workers, peasants, and students cooperate with the People's Army air defense units in safeguarding the transport lines. They stand sentinel on important bridges, ferries, and key road sections to insure that convoys and ships will pass safely."

"Mobile repair teams and supply station have been set up on ferries and at terminals. Tool carrying repairmen and doctors and nurses equipped with first aid kits are on the alert 24 hours a day to serve the transport workers."



[REDACTED]

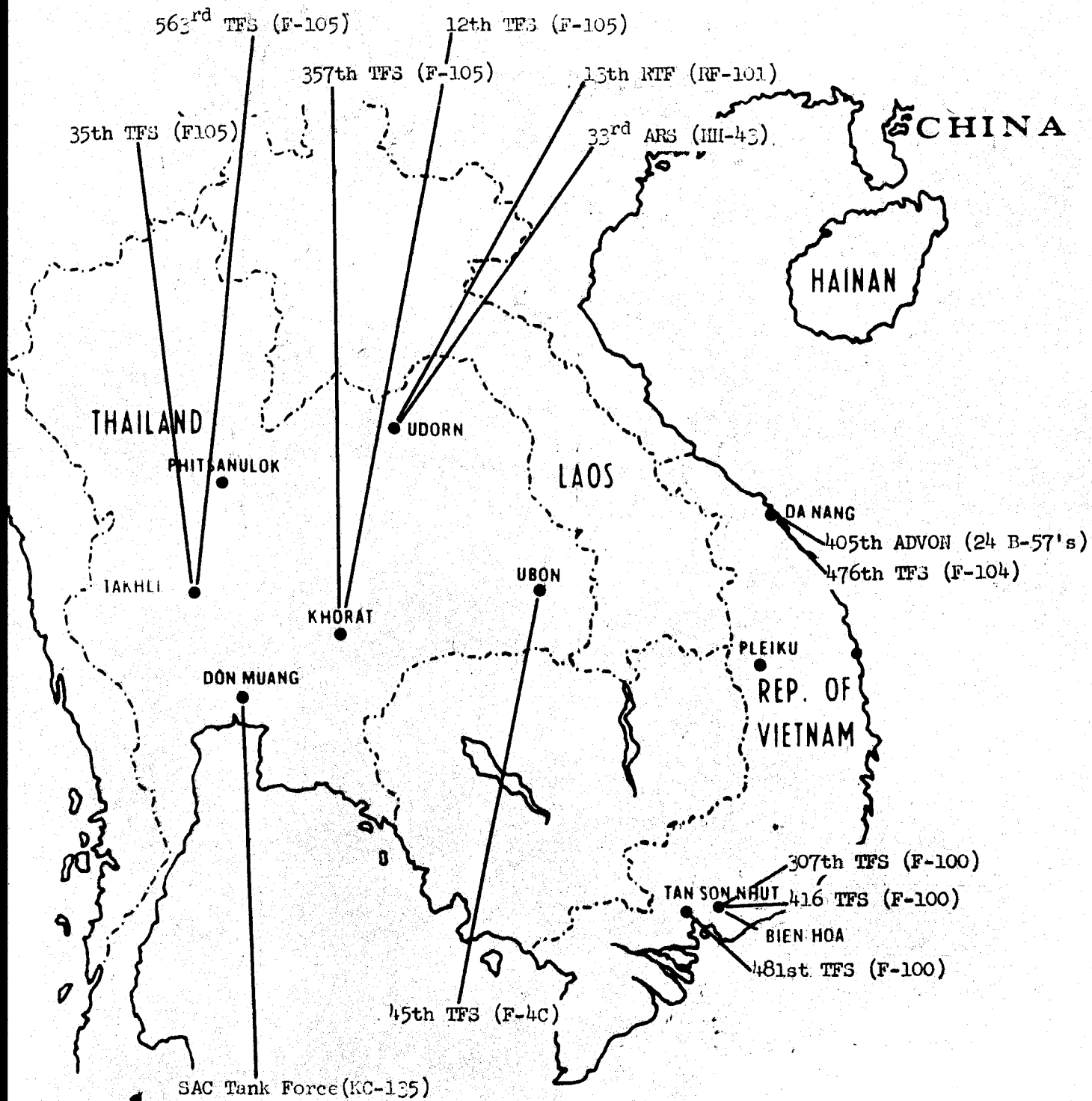
"A large number of horsecarts, oxcarts, and bicycles have been used by the local population to help transportation agencies to ship material. A team of more than 1000 bicycles in Phuc Ninh Country, Phuc Tho Province, in a single trip sent one hundred tons of salt, cotton piece goods, and other commodities to the countryside. Thirty-six oxcart teams have been formed in Lam Thao, Thanh Ba, Viet Tri, and other places. One hundred fifty horses are being used in Nui Thanh Country to transport goods to villages in the hilly regions. Timber and bamboo rafts are busy plying along many rivers..."

[REDACTED]

FORCE STRUCTURE

The force structure during the period was in a constant state of change to meet the Rolling Thunder requirements, as well as the stepped up air war in South Vietnam and the Laos interdiction programs. In February the USAF had 18 F-100's and 18 F-105's at Da Nang, 18 F-105's at Korat, 18 F-100's at Takhli and eight B-57's at Bien Hoa. For the February strikes against North Vietnam, only the RVN-based aircraft were committed, along with VNAF aircraft and planes of the 7th Fleet. In late February, the Thai Government agreed to the use of its bases for these strikes, thus increasing the flexibility of the force. The B-57's at Bien Hoa, which had been removed to Clark Air Base following the mortar shelling of Bien Hoa in November 1964 were returned on a limited basis in February. One squadron fortunately was moved from Bien Hoa only two weeks before the attack. Eight B-57's arrived on 10 February and ten more on 19 February, the day jets were released for in-country strikes. Another 16 B-57's arrived from Clark on 1 March, bringing the B-57 force back to its November 1964 strength. <sup>158/</sup>

In Thailand, the F-105 squadron at Korat was joined in early February by two more squadrons of F-105's, one of which came from Da Nang; the other arrived at Takhli as part of the four squadrons approved by the JCS for deployment to the Western Pacific. The F-105 squadron at Da Nang was replaced by the F-100's formerly based at Takhli. Other squadrons included in the JCS deployment order were an F4C squadron for Ubon, and F-104 squadron for Kung



AOB  
30 June 1965

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Kuan, Formosa, and an F-105 squadron at Kadena. 159/

With these deployments, there were 65 F-105's in Thailand on 18 March and within a month, this total was raised to 74. The F-105's were carrying the main burden of Rolling Thunder. 160/

On 7 April, the squadron of F4C's arrived at Ubon to participate in the strikes against North Vietnam. Also, arriving at Thailand bases during April were a detachment of six RF-101's and another detachment of six RB-66's at Udorn. An F-104 squadron arrived in April at Da Nang to support the Rolling Thunder program. Two EC-121's arrived at Tan Son Nhut on 13 April. 161/

This establishment remained relatively unchanged until late June when several changes were made in unit locations. The two B-57 squadrons, the 8th and 13th Bomb Squadrons, were moved from Bien Hoa to Da Nang and redesignated as the 405th ADVON, effective 29 June. On 18 June, an F-100 squadron, the 481st Tactical Fighter Squadron arrived at Tan Son Nhut. With the move of the B-57's to Da Nang, the 18 F-100's of the 416th Tactical Fighter Squadron at Da Nang moved to Bien Hoa. The other F-100 squadron at Da Nang, the 615th, returned to the U. S. and was replaced by the 476th Tactical Fighter Squadron. 162/

The force structure on 30 June was as follows: 163/

Da Nang.	405th ADVON (24 B-57's)
	476th TFS (F-104)
Bien Hoa	307th TFS (F-100)
	416th TFS (F-100)

[REDACTED]

Tan Son Nhut                      481st TFS            (F-100)

(NOTE: F-100's were used for out-of-country strikes  
only in the first two months of operations.)

Don Muang                      SAC Tanker Force    (KC-135)

Ubon                            45th Tactical Fighter Squadron (F-4C)

Takhli                        35th TFS            (F-105)  
                                 563rd TFS           (F-105)

Korat                         357th TFS           (F-105)  
                                 12th TFS            (F-105)

Udorn                         15th RTF            (RF-101's)  
                                 33rd ARS            (HH-43's)

In estimating the use of planned forces for the period July through October, consideration was given to the basing of two F-105 squadrons at Takhli, two F-105 squadrons at Korat, and an additional F-105 squadron due on 15 July. Also, there was one squadron of F4C's at Ubon with another scheduled for 15 July and a possible third squadron on 15 September. There would also be 24 B-57's and a squadron of 14 F-104's at Da Nang, two F-100 squadrons at Bien Hoa, one F-100 squadron at TSN, and another F-100 squadron at Bien Hoa by 15 September if the base was ready. No change was planned in the A-1E aircraft strength. 164/

Using this criteria, the planning for the July-October period was as follows: 165/

<u>Month</u>	<u>Sorties Available</u>
July	8,876
August	9,527
September	9,933
October	10,829

[REDACTED]

Based on an 80% OR rate, the following numbers of aircraft would be available for this period. 166/

	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>
F-105	63	72	72	72
F4C	22	28	36	43
F-104	11	11	11	11
F-100	42	42	49	57
B-57	19	19	19	19
A-1E	<u>36</u>	<u>36</u>	<u>36</u>	<u>36</u>
Total	193	208	223	238

The available sorties were considered adequate to support the present JCS targeting program in Laos and North Vietnam. However, the full use of sorties available was believed contingent upon tanker support, particularly for targets located above the 20th parallel. In South Vietnam, base loading factors in June prevented the deployment of any additional forces above those programmed. However, the development of Cam Ranh Bay would provide a greatly increased capability. 167/

6mcs  
Leaflet drop on  
Dong Hoi on  
17 April 65

"FACT SHEET" Leaflet Drop Operation

An integral part of the Rolling Thunder operation was Operation "Fact Sheet", a psy-war program calling for the dropping of some four million leaflets weekly over North Vietnam by USAF and VNAF aircraft, with VNAF participation on a limited basis. The first "Fact Sheet"

missions were launched on 14 April when VNAF A-1 aircraft dropped

SHOULD BE BY  
FOUR USAF  
F-105'S  
SEE N.Y.  
TIMES  
15 APR 65

N.Y. Times  
says  
three  
million  
leaflets

one million leaflets on the cities of Dong Hoi, Ha Tinh, Vinh and

Thanh Hoa. USAF F-105 aircraft made their first "Fact Sheet" mission

on 19 April when they dropped 1,200,000 leaflets on Bai Thung,

Ha Trung, Thanh Hoa, Phu Qui, Phu Dien Chau, Vinh and Ha Tinh. The

Included  
LBS  
speech.

leaflets warned civilians to stay away from military installations,

compared life in the south with life in the north, and explained the

reason for the strikes against the DRV. 168/

On 28 April, one million leaflets were dropped by USAF aircraft

over Cua Rao, Khe Bo, Muong Sen and Cong Cuong. Missions were also

flown on 20 and 23 May by USAF aircraft and on 22 May by VNAF air-

craft with a total of 1,494,000 leaflets dropped. During June, the

tempo of leaflet operations increased when 4,800,000 leaflets were

dispensed. 169/

In July, USAF aircraft made leaflet drops on the first 14 days,

dispensing a total of 9,888,000 leaflets on impact areas ranging from

Dien Bien Phu and Haiphong in the north to the DMZ in the south.

On 20 July, Hanoi was targeted with 960,000 leaflets and Haiphong

with 320,000, using the wind drift method, because of the 40 mile

[REDACTED]

restricted area imposed around Hanoi for leaflet operations. The VNAF conducted leaflet drops on 20 and 30 July dispensing 800,000 leaflets in the southern half of the DRV. The first months of leaflet operations were considered to have produced successful results. Intelligence reports and numerous transcripts of DRV press reports and radio broadcasts attested to the success of the program. 170/



# UNCLASSIFIED

## ROLLING THUNDER

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